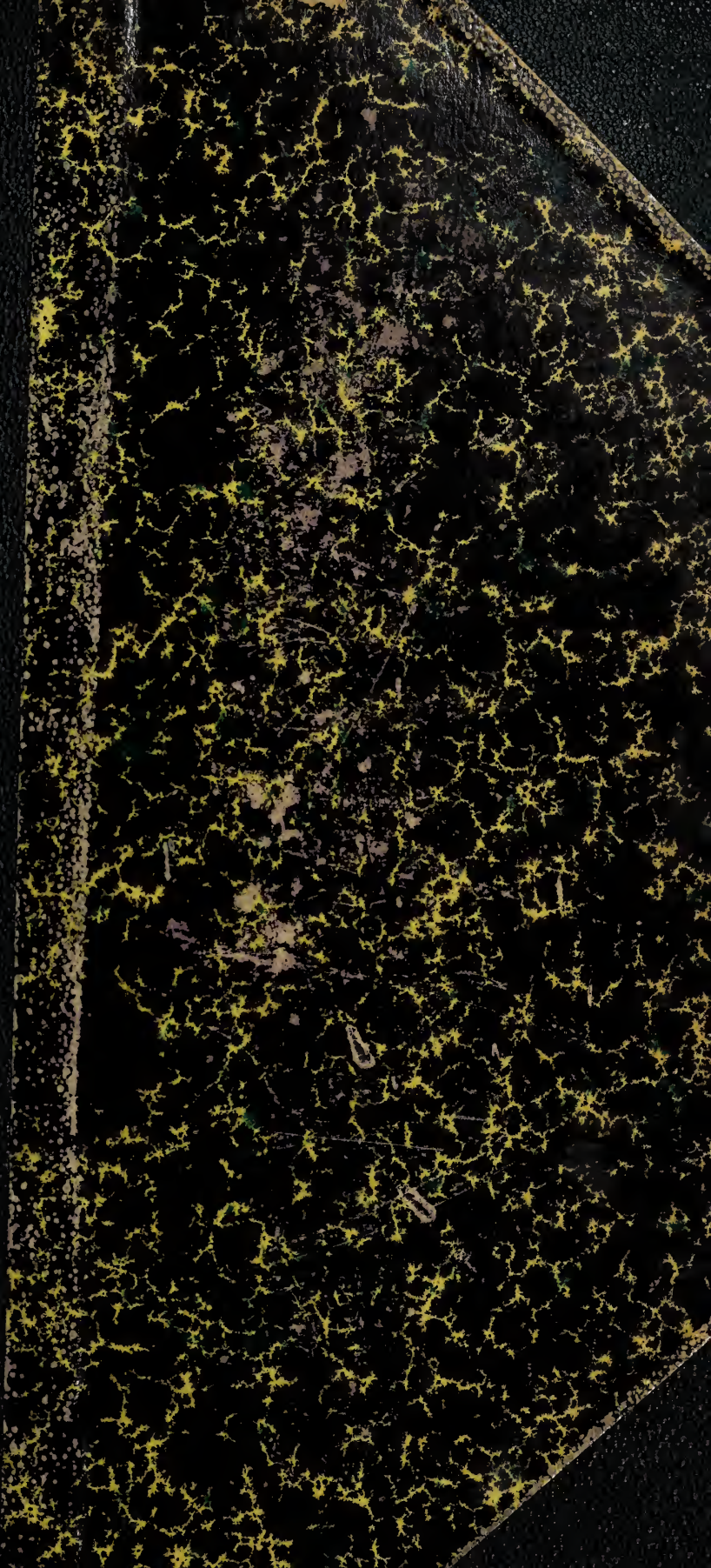


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The next Annual Meeting of the Michigan State Medical Society will
be held in Detroit, June 11th and 12th, 1903

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PRESIDENT'S ADDRESS.

THE MICHIGAN MEDICAL SOCIETY.

It's First Eighty-three Years—Present Wants, and Suggestions for their Supply.*

LEARTUS CONNOR,
Detroit, Mich.

PART I.

A year since you selected me for certain responsibilities and special work. 'Tis too much to hope that your expectations have been fully met, but you have had my constant thought, best judgment and unwearied service.

On a beautiful October day your representative laid the corner stone of the new Science Building of the Medical Department, University of Michigan—an epoch in the life of Michigan's first medical

school, by which it can better train those who shall fill our future ranks, add new resources to our science, and augment the State's reputation in the scientific world.

Realizing that you desired an increase of members and more local societies, your president and efficient secretary did what was possible to promote both objects.

Last year the American Medical Association radically changed its organization, by placing all legislative and executive power with delegates from State societies and the sections—in all one hundred and fifty. The rest of the association receive the JOURNAL (if they pay five dollars annually), take part in the scientific and social work, and listen to the addresses.

In common with other states, Michigan is asked by the American Medical Association to divide its membership in like manner; a house of delegates from the county societies and councilors for legislative and executive duty; the remainder for scientific and social purposes.

To study exhaustively these radical changes and wisely advise the proper ac-

tion, the president appointed a committee, consisting of Drs. A. E. Bulson, of Jackson, George Dock, of Ann Arbor, and Charles T. McClintock, of Detroit. Its report and that of our members of the house of delegates, American Medical Association, follow this paper, and conclude the formal presentation of the subject of our reorganization.

Standing at the close of eighty-three years with a new life more complex and highly organized than any we have known, it is pertinent to inquire: "What light does our past shed upon the future?"

Organized at Detroit under territorial law, August 10th, 1819, the Michigan Medical Society has had but two breaks in its continuous operation, viz: from 1851 to 1853, and from 1860 to 1866. Its name has varied slightly during these three periods, but it has been, under all conditions, the Michigan Medical Society.

It was one of many events that marked the origin of Michigan as an American community, based upon the permanent resources of its own industries, in spite of the planting of a colony by Cadillac on the shores of the Detroit river one hundred and twenty years previous. Others were: the first move to establish Michigan University; the first sales of land by the United States; the opening of roads towards Saginaw, Chicago, Grand River, Fort Gratiot, and the removal of the stockade about Detroit.

The moving spirit in the formation of the Michigan Medical Society was Dr. John L. Whiting—a type of the doctors who laid the foundations of our Michigan Medical Temple amid primeval forests. Born November 28th, 1793, at Canaan, N. Y., of parents who had emigrated from Norwich, Conn., he received

his preliminary training at Lebanon, N. Y., and Lenox, Mass. Thereafter for three years he studied medicine with Dr. Samuel White, of Hudson, N. Y., and was licensed by the State of New York. Turning his face westward he reached Detroit on horseback, February 26th, 1817. Endowed with great physical and mental vigor, he soon secured a large practice and commanding social influence. Conversant with the New York medical laws,* and believing them adapted to the needs of the territory, in 1819 he began the formation of a medical society among the few scattered physicians of the territory (Schoolcraft says there were but eight physicians in Detroit). Changing the New York medical laws to the new conditions, himself and friends readily secured the assent of the government as embodied in Governor Lewis Cass, Judges A. B. Woodward and John Griffin—a task made easy by the fact that these men were conversant with similar laws existing in the older states whence they had come. Whiting served long as secretary, and then as president.

Unfortunately for the medical profession, in 1832 he left it to engage with John J. Deming in the commission and forwarding business. In 1842 he became a land tax agent. Dr. Brodie said that this change was induced by the unexpected deaths of three successive cases—an event often recorded in medical annals. Dr. Whiting was ever ready in times of emergency, as in the cholera epidemics of 1832 and later, to throw aside his business and assist his professional brethren, till the crisis had passed. He died full of honor, aged eighty-seven, leaving num-

*Dr. W. W. Potter (Buffalo, N. Y.) says N. Y. State Med. Society originated in action taken by physicians in and about Saratoga, N. Y., in 1805.

erous descendants, always in the front of the hosts advancing Michigan's progress.

To grasp the far-reaching influence of this first Michigan Medical Society, it is needful to keep in mind the salient features of the physical, political, religious, social, business, and scientific conditions of 1819 in Michigan. At that date it was a French Arcadia, as described by Longfellow; an immense forest of giant trees, interspersed by silver lakes and oak openings, cleared only for a few rods along the larger rivers. Vast undrained areas were breeding places for the malarial fevers and culture beds for visiting morbid germs, as cholera, typhoid, and typhus.

Its inhabitants were mainly of the Roman Catholic faith, born and nurtured under the despotic idea of the French and British kings of that day—and so unfavorable to general education or the exercise of individual liberty.

Relations with the outside world were difficult, dangerous and expensive. Mails from Ohio were brought on horseback as late as 1826, and postage increased with the length of the route.

Trading in furs was the chief source of wealth; fishing, hunting and light farming added something to means of subsistence.

Lives of doctors were full of adventure and hardship from hostile Indians, absence of roads, the presence of deep, thick mud, and long trips incident to the sparse population. Calls to places as distant as Tecumseh from Detroit were not infrequent, occupying two days and a night, either going or coming; the night being spent on the ground rolled in a blanket, subject to calls from wolves or other uncanny natives; the Indian trail, their only guide through the dense forests. Because of scanty pay for professional work, most,

if not all doctors, were compelled to engage in some outside occupation—as the keeping of a drug store, or agent for articles of general merchandise. From such sources have sprung not a few of the large commercial houses or factories of modern Michigan.

His superior education and gentlemanly manners gave the doctor high social position and great influence in all public affairs. Thus in 1842 Drs. Zina Pitcher and Douglas Houghton, aided by Samuel Barstow, were most active in promoting the act by which Michigan established the first absolutely free system of popular education. Drs. Sager, Pitcher, and Houghton, with other doctors, were active in the steps that led to the growth of the University. Pitcher was long one of its regents; later, in an editorial in the *Peninsular Journal of Medicine*, he expressed regret that he had not held out for a nine months' course at the opening of the Medical Department, and an entrance examination equal to the literary. Both Drs. Marshall Chapin and Zina Pitcher served as mayors of Detroit and were influential in developing health interests of the city.

The leaders were picked from the best stock of New England and New York and Pennsylvania—their deeds would fill a library, and those of their descendants are a solid part of Michigan's history.

Since the chemistry of 1819 was extremely crude, and pharmacy still more, it is evident that doctors were compelled to administer remedies not always concentrated or agreeable. They lived and died in ignorance of the delight in prescribing nastiness coated with sugar or gelatine; or the satisfaction of using remedies as exact in power and definite in operating as the surgeon's knife.

Measured by present standards, neither anatomy, physiology or pathology were very helpful. Without anæsthetics, bacteriology, aseptic surgery, with imperfect appliances of all kinds, without antitoxine, the doctor of 1819 needed the best brain capacity and closest attention to details to secure satisfactory results. Since his senses were compelled to act as substitutes for the thermometer, the sphymograph, the ophthalmoscope and all other scopes, 'tis little wonder that they became wonderfully acute and that his experience added much to the doctor's practical value. Such was the house in which was born the first Michigan Medical Society. The leading features of its constitution:

1. It was a legal document, and the Society represented the Government of the Territory.

2. It prescribed the conditions for beginning the study of medicine.

3. It determined the fitness of those seeking a license to practice.

4. It formulated the offenses for which licenses were revoked.

5. It had power to execute these provisions—in short, the Society was legislative, executive, and judiciary, with police power to make all effective.

The qualifications demanded of those desiring to begin the study of medicine are stated in the Incorporating Act, By-Law 9. "The President, Senior Censor and Secretary shall form a Board to examine students in the preparatory branches of education, and give a certificate, previous to their entering upon the study of medicine. They shall meet on the second Monday of January and June, respectively. They shall keep minutes of their proceedings and lay them before the Society semi-annually. If the student has had a collegiate or academic education, his

moral character only shall be the subject for their examination. This certificate shall permit him to study with any member of the Society."

Otherwise, by specific vote, the secretary granted permission to members to take as students those with known fitness to begin the study of medicine. Thus we read in the proceedings that on June 14th, 1825, Dr. Ezra S. Parke (father of the late Mr. H. C. Parke, of Parke, Davis & Co.) was granted permission to take as a student Mr. L. B. Webster. This care for the preliminary training of perspective medical students is worthy of being copied now and evermore. One is startled to contemplate the high standing of the profession had this example of the early days of our Society become universal and continuous.

Respecting the conditions for granting licenses, By-Law 18 says: "Candidates for license to practice medicine or surgery shall give notice thereof to the President and Censors fifteen days previous to examination, and before anyone can be admitted to examination he must present to the Censors satisfactory proof that he is twenty-one years old, of good moral character, has studied the time required by law with one or more reputable practitioners, and that he has appropriated the time solely to the study of medicine and surgery. If he be a candidate for a license to practice physic, he shall be examined on materia medica, pharmacy, anatomy, physiology, and theory and practice of medicine; candidates for the practice of surgery shall be particularly examined on anatomy and surgery." Further, By-Law 19 says: "When a candidate shall obtain his certificate, signed by a majority of Censors, he shall present the same to the President, who shall direct him to de-

liver an inaugural address on some medical or chirurgical subject before the Society at its present or next meeting; after which he shall be entitled to a diploma under the seal of the Society, signed by the President and countersigned by the Secretary. For this he shall pay ten dollars for the use of the Society."

Licenses to practice given by other state societies were accepted if said society accepted those from Michigan—full and fair reciprocity—in operation eighty odd years ago and for a third of a century later. Why is not the same provision as fair to-day?

Certificates of dismissal were given members moving from the territory, provided they had settled their accounts and otherwise conducted themselves decorously.

For unseemly conduct a member could be expelled by a two-thirds vote; the accused having had sufficient notice to arrange his defense—unseemly conduct included gross immorality, the using of secret nostrums, etc.

Members of the Society absent from the semi-annual meetings were fined a dollar for each offense. The admission fee was five dollars; the annual dues one and one-half dollars.

Licensed physicians in any county, on application, were granted by the territorial society the right to form a local society which, within the limits of the county, had the same rights as the territorial, except that the aggrieved member had the right of appeal to the parent society, and the county society compelled to accept the decision as final.

Thus June 12th, 1827, permission was granted Drs. Cyril Nichols, Rufus Pome-roy, William Kitteridge and David Lord

to form a Washtenaw County Medical Society.

June 12th, 1831, permission was granted Drs. William Thompson, David L. Porter, E. L. Parke and Thaddeus Thompson to form an Oakland County Medical Society.

July 23d, 1835, to Drs. Hubbel Loomis, etc., to form a St. Joseph County Medical Society.

January, 1836, to Dr. L. T. Jenney, etc., to establish a Macomb County Medical Society.

January, 1836, to establish a Monroe County Medical Society.

June, 1837, to Drs. Darwin Littlefield, Hiram Alden, M. Randall, William Noneclott and Thomas Caulkins to establish a Branch County Medical Society.

April 14th, 1849, the Wayne County Medical Society—From an unpublished report of a meeting of this society, March 16th, 1850, we learn that the Censors reported that "Edmund Andrews is entitled to be received as a student of medicine by any member of the Wayne County Medical Society." Thus one of Chicago's most celebrated surgeons gained permission to begin the study of medicine from this Society.*

In 1825 the Government of Michigan was augmented by a number of councilors, elected by the people, to act in conjunction with the Governor and Judges, appointed by the general government. On that date the following changes were made in the medical law:

- I. A candidate for commencing the study of medicine must be sixteen years old.

* Thus anterior to 1850 we had seven County Medical Societies; in 1902 we have fifteen, classed as County Medical Societies, or twenty-two of all sorts, not a rapid increase for over half a century.

2. He must study medicine four years ere applying for a license. In lieu of one year, a year's study in a respectable college may be accepted—after a long reign of a far lower standard we have returned to our first.

3. If coming from another state, the candidate must produce a diploma or valid evidence to show the possession of knowledge adequate to practice medicine satisfactorily—a standard such as now prevails, except the Censors deciding the fitness are different.

In 1829, the law of 1819, as amended in 1825, was re-enacted with amendments as:

1. Surgeons and assistant surgeons, U. S. A., stationed at Green Bay, Prairie du Chene, Sault Ste. Marie and Mackinac, were permitted to do civil practice without license, provided the civil doctors were inadequate to the needs of the people about the posts.

2. County societies were permitted to hold property to the extent of \$5,000, and the territorial to \$25,000.

3. Evidence was required of doctors coming from other states that they had studied as much as was required in Michigan, a fair proposition for all time.

4. Doctors unconnected with any of the legal societies were subject to the same penalties as irregulars.

5. Each of the Territorial and County Censors must be notified of a proposed examination, and a majority must be actually present, else the examination could not proceed.

6. Physicians could be tried on general charges, as infamous crimes, gross negligence, or incompetency, and if found guilty, suspended from practice under the same penalties as the unlicensed.

In 1838 the medical laws were again

revised in accord with a strong hostile public sentiment, developed by the active proselyting of the hords of quacks who sought a home in the new state. The population had risen from 7,000 in 1820, to 174,467 in 1837. Further, it was a period of wild-cat money, of general extravagant inflation of everything, the projection of public and private enterprises on the scale of paranoiac. As the people were in a frame of mind to be robbed, the quacks gathered to do the job in accord with the axiom, "where the carcass is there do the vultures gather."

The revision covered the following points:

1. Jury and militia duty were repealed.

2. Fines for irregular or unlicensed practice were eliminated, though the law remained against the collection of fees by the unlicensed.

1. In 1846 another revision repealed Section 8, giving the unlicensed legal power to collect fees.

2. Physicians from other states were admitted to practice without any formalities—thus for the first time inaugurating the era of "free trade" in medical practice, an era unchecked until a recent date.

3. The requirement of four years of study was struck out—has it been restored?

4. Perhaps the most remarkable thing in this history, as related by Dr. Zina Pitcher, is a decision of the Michigan Supreme Court that "A doctor is any person calling himself such."

Even this brief account makes evident that the Michigan Medical Society no longer represented the State Government—accordingly it held its last meeting January 14th, 1851. At this meeting Drs. William Brodie and L. H. Cobb were

elected members, and Drs. George B. Russell, Randall S. Rice and Zina Pitcher appointed a committee to attend the next examination of candidates for the M. D. degree at the University of Michigan, Dept. of Medicine and Surgery—thus still trying to guard the gates of the medical profession of Michigan “that none enter unworthily.”

During this first period of existence the total membership of the Michigan Medical Society was sixty-three. In an address Dr. Pitcher says that the yearly accessions were limited to two—if correct, it explains why during thirty-two years there were so few members. Other reasons were the expense of entrance fee, five dollars, annual dues of one and one-half dollars, fines one dollar for each failure to attend the semi-annual meetings, and the tedious, difficult modes of travel, practically limiting its membership to Detroit and adjacent country. It licensed two hundred and fifty members, whose names with date of licenses we have.

Of the number licensed by the county societies we have no means of knowing, as rarely have the records been preserved. The lists of these legal societies include about all who left any permanent record upon public professional affairs, during these thirty-two years. The Society's first officers were:

President—William Brown.

Vice-President—Stephen C. Henry.

Secretary—John L. Whiting.

Treasurer—Randall S. Rice.

Censors—Ebenezer Hurd, Stephen C. Henry, Randall S. Rice.

Note that at its start this society had but five members with which to fill seven offices, so two were given two offices each. Recalling that, quacks included, there were but eight doctors in Detroit, and

scarcely more in the territory, it called for a sublime faith in these five doctors to form a medical society on the basis of ensuring a clean, well educated, honest profession in Michigan. Yet we hear it said that with a dozen physicians in a single county, it is impossible to establish a medical society. Has the nerve of our founders died out, or is it merely dormant, waiting for a galvanic current from this Society to rouse its ancestral power?

The changes of officers in this Society were very infrequent. William Brown was president seven years; William Thompson, one year; Stephen C. Henry, six years; John L. Whiting, three; Marshall Chapin, one; D. V. Hoyt, one, and Zina Pitcher, fourteen—seven presidents in thirty-two years.

Of secretaries there were but four: John L. Whiting, eleven years; Randall S. Rice, seven; E. M. Cowles, one, and J. B. Scovil, fourteen.

The records show but few papers read and few scientific discussions—the time being occupied with examining, registering, licensing, giving and receiving letters of dismissal and prosecuting offenders. The Society had its own attorney and added such other legal talent as occasion called for. It rewarded those giving evidence of violated law by assessing them with expenses if the suit failed of success, while it gave no reward for the evidence—a novel mode of administering justice.

A notable event in the Society's history was the election to membership of Dr. William Beaumont, of Mackinac, on June 14th, 1825. On August 27th, 1826, he gave the Society a report of his celebrated case of gastric fistula, with an account of clinical and chemical studies on gastric digestion, scientific observations, which

formed an epoch in our knowledge of human digestion.

In the strait uniting Lakes Huron and Michigan, on the beautiful island of Mackinac, stands a massive granite monument erected by the Michigan medical profession in 1900, when its meeting was held on the island, to express an appreciation of a colleague whose glory brightens with passing years.

January 9th, 1838, the Society voted thanks to Drs. J. G. Connell, of Jackson County, and Hiram Alden, of Branch County, for "their firmness in defending, in legislature, the privileges of the profession against the encroachments of presuming ignorance, and the disorganizing spirit which seeks to annul all vested rights, even at the expense of life of persons and property." This little side light indicates much of the practical operation of the Michigan Medical Society of that period. We have seen that it was absolute monarch of the Michigan medical profession, with power to prescribe what the student should know ere he assayed the study of medicine; what he should add to secure a license; how he should demean himself in order to retain his license; the methods by which he could be deposed; and the means by which he could be transferred to another sister medical society. But "Uneasy sits the head that wears the crown."

The Governor and Judges were men of large ability and devotion to the public good, so it was easy to induce them to enact such a law as prevailed in the states whence all parties had come. But, as ideas of individual liberty and popular government gained power in Michigan, so did the opponents of the law gain in influence. They labored in season and out to educate the people to their views. Meantime,

members of the State Society, secure in possessing the law, went quietly about their work or play. Petitions to the legislature for the repeal of one feature or another increased in number and influence; the popular press was enlisted; journals for the sole purpose of educating the public to greater liberality were scattered on all sides, until naught of value remained of the law, and its friends voted for its abolition. It does not appear what would have occurred had the individuals of the State and County Societies exerted all their energies to educate the people to the maintenance of the law. The fact remains, they did little or nothing, were utterly routed and, worse still, the echo of the affair still exhibits itself on most inopportune occasions.

Dr. Pitcher's comment was that the law induced an atrophy among the members of the Society, and stimulated conflicts among themselves to the mutilation of their own professional reputation.

*The authorities for statements of facts in this address are the unpublished record of the Michigan Territorial Medical Society, kindly loaned by my friend, Dr. C. G. Jennings. This covers a period of thirty-two years; unpublished records of Wayne County Medical Society, loaned by Dr. S. P. Duffield. Correcting and supplementing these are the Legislative Records, Compiled Laws, Supreme Court Decisions, addresses and papers in medical journals, society reports, monographs, daily papers, Pioneer Society reports, and verbal communications from the older men and women, who personally were conversant with some of the facts, or received the same from their relatives, who were participators in the same.

Part II, concluding the President's address, will appear in the October number of *THE JOURNAL*.

THE JOURNAL wishes to emphasize the desirability of receiving communications on matters of interest to the profession in the state, and urges the sending in of such communications.

SURGICAL ADVANTAGES.*

ANGUS MCLEAN,
Detroit, Mich.

During the past year nothing especially new has been added to the achievements of surgery, except it be that the applications of its principles are being better understood by the medical profession at large; and the profession more and more, each year, seek to have their patients receive the benefit of these principles when any important surgical interference is required.

Every doctor desires to have his patient placed under the most favorable surroundings during an operation, and it is due to this fact that so many patients are sent, or go of their own accord, to institutions where these principles are strenuously and firmly adhered to, before, during, and after a surgical operation.

In using the term "surgical advantages" in this paper, I did not have in mind that surgery has any advantages over internal medicine, or that the surgeon in any way excels the internist; but I wish to point out the advantages offered in some localities of the State as compared with other localities for operative work in surgery. The good results obtained in surgical work are not attributable to the operator alone, for a large degree of the success depends upon the surroundings; such as, former preparation of the patient, the assistance during the operation, and after care and observations.

Wherever these aids to the surgeon's success are present, and their uses are practically followed out, that will be the advantageous locality for the surgeon.

More favorable results in capital opera-

tions can be obtained in institutions where the conveniences for the proper preparation of a patient are at hand, that is, where a warm bath, vaginal douche, rectal enema, etc., can be given, as well as the field of operation properly sterilized and an antiseptic dressing applied. An operating room that is correctly heated, well lighted, well ventilated, with sterilized solutions at hand, and fitted with modern surgical appliances and an improved operating table is far superior to the ordinary room.

All of these things, together with a corps of trained nurses, a regular assistant and an experienced anesthetist, all of whom are having daily experience, must be more efficient than those who are not accustomed to this work. The after care, when the patient is under the supervision of the trained nurse every hour, when the pulse rate and temperature are accurately taken and noted, where a suitable diet is prepared by a special cook, must be superior to after care entrusted to inexperienced persons, be they ever so willing. With all of these aids at his disposal a very careless surgeon may do a successful operation.

How very different it is with the surgeons who practice in a locality where there are no hospitals within many miles of them, and they are compelled to do capital operations in the homes of their patients, however inconvenient their surroundings may be, with no trained nurse present to assist in the preparations for the operation, with no assistant at hand to aid in the work, and no competent anesthetist within several miles of them.

The diagnosis and pathology of the case may be as accurately arrived at at one place as another. The necessary manipulations may be as skillfully carried out

*Oration on Surgery, Annual Meeting, Port Huron, Mich., June 26, 1902.

in the home as in the institution, but the principles of the modern operating room are totally lacking in the former. A large degree of the success in every capital operation depends upon these auxiliary principles. The most skillful surgeon cannot meet with success, if he does not have the advantages of perfect asepsis in all of its details, before, during and after an operation.

After the operation is completed in the home the surgeon has much to overcome to prevent the family from annoying the patient, disturbing the dressings or giving improper nourishment, with no one present competent to keep a record as to what has happened during his absence. His office is several miles away from the patient's home, with no telephonic connection and many hours of his time must be spent going to and fro, but with all of these inconveniences he frequently does good work. The doctor who is compelled to do work under these disadvantages is the doctor whom the laity and a number of his fellow brethren allude to as the "country doctor."

Who is the "country doctor"? Country doctor was a term put in vogue many years ago when many a young practitioner was compelled to settle in districts distant from medical centers, when medical journals were less numerous than now, and when there was no free mail delivery and probably no postoffice near him. For this reason most of them could not keep in touch with the progress of medicine as it advanced at the medical centers and were not acquainted with the latest theories and discoveries of their profession, and so were looked upon as not being up to date, and were referred to as "country doctors," when compared to their brethren in medical centers. This

term cannot be used in this sense to-day, for within a few hours after the discovery of any scientific fact it is carried by wire and mail to every corner of the State, and there is no excuse for any physician not being acquainted with the latest discoveries in medicine.

If the lack of knowledge in the daily progress of medicine, alone, designated the country doctor, a great majority of city doctors would belong to that class, for there is a large portion of the profession of every city who does not take a medical journal or visit the medical institutions, though these places are open to them.

It is true, that the most noted surgeons of to-day come from the large cities, but it is not true that the best students, or the most efficient graduates remain in the cities, for the very best of these frequently leave the city for the outer localities. It cannot be then that this virtue, or quality, that allows the city surgeon to lead the country surgeon, lies in the man himself, but it is in the advantages and opportunities which are offered to him by his locality. It has been said, "where there is nothing great to be done, a great man is impossible." I would change this somewhat in relation to this subject and say, "without an advantageous locality it is impossible for the surgeon to become great." There have been some exceptions to this, but they are few, and were before the days of antisepsis. When it is known under what disadvantages these physicians have to do their work, they are to be admired for the amount they accomplish, but instead of receiving the admiration due them they are probably the most maligned and vilified class of people, by those who do not know their virtues, and the unfavorable circumstances under

which they have to do their work, that exist. It is not pleasant to be slandered by those who do not know you, though it be an avenue to fame.

When they do discover anything new, they have not the opportunity to present it to the profession that the city man has, and some of their discoveries are not published until they have been deprived of the credit of their discovery by an urban colleague. This has been demonstrated so often that it has been said, "that before declaring anything new in medicine, wait until the rural districts have been heard from."

The doctors in the outside localities compare very favorably with the other professions, that is, the ministry and the law, and yet we do not hear of those professions being abused and belittled, for they are on a par with the professions of the city. The "country minister" is just as close to the Lord and has just as good an opportunity to make an interesting address at any four corners of the State as though he were standing on a carved pedestal in the center of a metropolis, and so with the legal profession, for they are just as near the realms of justice, or nearer, in the rural districts than in the stately court room of a large and corrupt city.

Now, what is to be done for the local surgeon, that he may have an opportunity to display his skill? Give him the same advantages that his brother in the larger town has; that is, give him a hospital and its equipments in his county. There are a number of urgent cases that die every year throughout the State for the want of a proper place to take care of them. By urgent cases, I mean cases that require immediate surgical relief, namely, strangulated hernia, extra-uterine pregnancy

with ruptured tube, penetrating wounds, acute appendicitis, ulceration of the intestinal walls in typhoid fever, intestinal obstructions, etc. All are agreed that the success of the operation in these cases depends upon early surgical interference. If these cases have to be transported across the State, or from one end of the State to the other, it takes up valuable time, at the expense of the patient's vitality and the golden opportunity to save a life is lost.

Every county should have a surgical hospital with a trained nurse and a competent assistant in attendance, where the surgeons of the locality could take their urgent cases. There are many counties in this State that do not have a hospital within many miles of them.

The State and counties spend large sums of money in erecting buildings and furnishing equipments so that the medical students may be well instructed in pathology and the principles of surgery, but neither the State nor county spends any money in furnishing them a proper place to do their work. The State appropriates annually large sums for erecting and maintaining institutions and homes for the aged, poor, blind, deaf and dumb, etc., a class of people who are not as valuable or as useful as those who so frequently demand immediate surgical relief. These urgent cases usually happen among active adults who are valuable and producing citizens.

There is but one State hospital in Michigan and that is located in one corner of the State and very few counties have a hospital of any kind.

These hospitals could be erected in the center of each county that requires one, at a moderate cost, and the patients could easily be taken there. These patients would not feel then as now that they are

being taken away from their friends, but that they were right among them, and they would not suffer from the mental shock that they do now when they are sent hundreds of miles from home. If the local surgeon did not feel competent to undertake the operation he could send for any surgeon whom he chose and the patients would have the benefit of letting the surgeons take the journey instead of taking it themselves. With an institution of this kind the country surgeon would develop just as a city surgeon has, and would be just as competent. A few of those valuable lives saved each year would more than compensate for any expense incurred in sustaining a hospital of this kind.

If some wealthy philanthropic citizen were to build a few hospitals of this kind in needful localities, he would erect a monument for himself, that from a point of virtue, would tower far above the libraries of Andrew Carnegie. When the State does so much for those who are mentally, visually or senilely afflicted, why should they not do as much for those who are "surgically afflicted"?

If some such plan as this were followed out it would equalize the opportunities to do surgical work and no doubt some local surgeon would be equal to the occasion and grasp the opportunity. There are doctors in every locality who do not take advantage of the opportunities offered them and a large percentage of these live in our large cities.

These plans that I have suggested of equalizing the opportunities to do surgical work may not be thought practical by some, but I do know that just as good physicians locate in these small places as settle in our cities, and if the city surgeon in time excels his brother of the country, it is due to the advantages of the former and

not to any superior knowledge or virtue that he possesses.

Until the local surgeon is given the same advantages to do work that his city brother has, I do not think that the laity or his professional brethren of the city should belittle or refer to him as the "country doctor," using this term as though it related to a physician or surgeon who was incompetent.

Arrange matters so that the outside surgeon shall have the same advantages that are offered to those of the city, and I will guarantee that his success will compare favorably with that of his city brother, and many lives that are now forfeited through delay and improper surgical surroundings, will be saved, and they will remain useful citizens to their community, owing to an opportunity to receive the benefits of modern surgery and its auxiliaries.

In response to many inquiries, THE JOURNAL wishes to announce that reprints of articles will be furnished at cost price.

At the annual meeting of the Society, Port Huron, June 26th, 1902, before the Section on General Medicine, the following symposium was delivered:

DISEASES OF THE KIDNEYS.

(a) Etiology. Mortimer Willson, Port Huron.

(b) Diagnosis. John E. Clark, Detroit.

(c) Complications:

Uraemic. John McLurg, Bay City.

Ocular. Walter R. Parker, Detroit.

Cerebral. Irwin H. Neff, Pontiac.

(d) Treatment. Joseph B. Whinery, Grand Rapids.

Discussion opened by George Dock, Ann Arbor, and J. H. Reed, Battle Creek.

ETIOLOGY OF KIDNEY DISEASE.

MORTIMER WILLSON,
Port Huron, Mich.

It may not be unprofitable at the beginning of this discussion to review the main facts in the anatomy and physiology of the kidney.

The essential elements in the structure of the kidney are the glomeruli or Malpighian bodies, the uriniferous tubules, and the blood vessels. These are bound together by the connective tissue into one mass. The glomeruli are tufts of blood vessels covered over by a reflexion of the terminal portion of the membrane of the uriniferous tubule. This reflexion is called the capsule of Bowman, and the space between the folds forms the first of a series of reservoirs, the collecting tubes being next, then the pelvis of the kidney, and lastly the urinary bladder.

After emerging from the glomeruli or capsule of Bowman, the uriniferous tubules pursue a devious course and are conveniently divided into the distal convoluted tubule, the descending limb of Henle's loop, the ascending limb of Henle's loop, and the proximal convoluted tubule which opens into one of the collecting tubes.

In the capsule of Bowman and the distal convoluted tubule, the epithelium is of the squamous variety and has indistinct nuclei. In the ascending limb of Henle's loop and the proximal convoluted tubule, the epithelium is polyhedral in form and striated in structure, with distinct nuclei situated near the lumen of the tube.

This difference in the form and structure of the epithelium can comport only with a decided difference in function. If indigo-carmines be injected into the blood

vessels of a dog, and the kidney be soon after examined, it will be found that the polyhedral cells have selected and removed a portion of the substance from the blood, and are discolored by it, and even the lumen of the tube filled with it; whereas the distal convoluted tubule and the descending limb of Henle's loop are not colored by it, the squamous epithelium lining these parts having no affinity for it. Now the probable physiological functions of these portions are as follows: The main function of the polyhedral epithelium is to secrete and excrete urea; that of the squamous epithelium in the capsule of Bowman and the first portion of the tube is to eliminate water and salines. The location of this apparatus, distal to that of the urea secreting portion, gives an abundant and suitable menstruum for the solution and washing away of the urea as it is extruded into the lumen of the lower tube. In the avian and reptilian kidney the water excreting apparatus is deficient or wanting and the uric acid and urates are thrown off in the form of a paste.

Now it has been shown that this is really the process by ligating the ureters, and thus checking the current of water through the tubes. When the kidneys are examined after this has continued for some hours, the urea is found only in the tubes and in a semi-solid condition, often in such quantities as to give the kidneys a whitish appearance. But no urea is found in Bowman's capsule. The function of these parts being so distinct, it would be likely that they would re-act in different ways to any morbid agent.

There is possibly here an example in the evolution of the kidney of that conservative or protective arrangement found in other organs of the body; as the

change of epithelium in the bronchi and air vesicles, whereby inflammatory processes are limited.

The kidneys are the channel by which some of the most toxic of the products of catabolism are eliminated from the body. The renal tissues are tolerant of the toxics when they occur in normal amount, and so no disturbance of function takes place. Aside from traumatism, disease of the kidney may be caused by, (1) the invasion of the organ by bacteria; (2) the presence of toxins natural to the urine, but in quantities so large as to be injurious to the capillaries of the glomeruli or epithelium; (3) toxins produced by general or local disease; (4) toxins produced by perverted or arrested chemistry; (5) poisons taken by the stomach.

It is easy to understand how disease germs may reach the kidney from the urethra or bladder. The typhoid and colon bacilli have been found in the congested or inflamed kidney, showing that there may be an invasion of disease germs by way of the blood vessels. But the chief factor in the production of disease of the kidney is toxæmia, whether the toxic elements are those which are normally eliminated by the kidneys, but in quantities sufficient to overtax and irritate the tissues, or toxins diverted to the kidneys which should be eliminated by other organs, or the toxins of infectious diseases.

Exposure to cold is given in all textbooks as a cause of nephritis, but it is not the cold that causes the disease. Only when the chilling of the skin and blood results in an arrest of dermic excretion, and a perversion of tissue metabolism whereby the toxicity of the blood is increased to an extent that irritates and injures the kidney tissues, is inflammation induced.

No doubt the temporary congestion arising from increased blood pressure is a contributing cause in these cases, but not this alone nor the cooling of the blood of itself will directly produce nephritis.

So in long continued gastroenteritis the vitiation of the secretions, the ptomaines of putrescent intestinal contents produce such a toxic condition of the blood that kidney disease very often results. This is a complication very often overlooked. That typhoid fever is very often a cause of kidney disease of at least functional character, any one who makes urinalysis a routine practice in all febrile diseases will soon discover.

During a recent epidemic in this city, I found albuminuria in 40 per cent. of my cases at some time during the second week of the disease. In one case I found albumosuria, with no bone lesion of any kind. So it will be found that the toxins of many febrile diseases produce very decided kidney symptoms.

Among the etiological factors in the production of kidney disease are usually enumerated errors of diet, overwork, and mental strain. But these are antecedents to a common condition; that is, perverted assimilation and excretion with a lowering of the sum total of vitality.

The toxine of diphtheria very often produces secondary disease of the kidney, and this is sometimes further aggravated by cardiac weakness.

It is well known that men in certain occupations where they are exposed to the fumes of phosphorus, arsenic, mercury, lead, or turpentine may suffer functional or even organic renal injury. It makes no difference in the effect whether these poisons are gradually taken into the system as a result of man's occupation or whether they are taken in quantity by the stomach, the amount in the blood plus the

duration of toxic action determines the effect of injury.

Gout and rheumatism, if not caused by, are accompanied by an excess of uric acid, which by its irritating effect on the kidneys is predisposing to disease. Doubtless these diseases are accompanied by other and undetermined toxins in the blood, which may be still more potent in the production of kidney disease than an excess of uric acid.

Among infectious diseases, scarlatina is most frequently a cause of nephritis, while in measles it is seldom noticed, and is very rarely met with in rotheln.

The nephritis does not seem to depend on the height of the fever or the intensity of the exanthema; for very frequently we have a pronounced nephritis in mild cases in the second week, and very severe cases may run their course without albuminuria.

The explanation lies in all probability in the greater resisting power of the kidney in some people than in others. Smallpox very often causes nephritis, but not so frequently as scarlatina. The form of nephritis in these cases is mostly desquamative, but in some of the fatal cases we find exudative or productive nephritis.

Those who make urinalysis an almost routine practice in all serious disorders will find the kidney very frequently effected in the eruptive or secondary stage of syphilis. Of course in the tertiary stage the kidney, like all other organs, may be the seat of gumma; but in the secondary stage we have albuminuria, and frequently true nephritis. It is rare in such cases to have the oedema that is so frequently a symptom of scarlatinal nephritis. Why this is so it is not yet possible to say. Whether the oedema is due to the uremia or to other toxic materials,

or to the differentials in salines or pressure is still problematical.

In all these cases where nephritis is caused by or occurs in the course of the infectious disease, it is the toxins of the disease that in reality produce the injury to the kidney.

The kind and intensity of the toxic elements will to a great extent determine what the extent of the injury may be, and what particular form the nephritis will assume. Some toxins acting more on the blood vessels will cause productive nephritis, while others acting more on the renal epithelium will cause parenchymatous nephritis. If the glomeruli are principally involved we have a more or less transient albuminuria.

It is undoubtedly true that heredity plays an important role in the etiology of nephritis. Not the inheritance of disease, but the low vitality and the small resisting power of the kidneys to injurious influences is here meant. As in consumption, it is simply a deficiency that is inherited, not a disease. This fact is sometimes obscured by the peculiarity manifested at all times in all heredity traits; that they are liable to skip one generation to appear in the next.

Hitherto the consideration has been given in this paper to those diseases of the kidney of an inflammatory character. One of the most important of kidney troubles that afflicts mankind is calculus. Though in its incipency it can scarcely be called a kidney disease, yet it may prove one of the most grave causes of injury or destruction.

The causes that lead to calculi are irritation of the lining membrane of the tubules or pelvis whereby too much mucus is secreted, and this uniting with amorphous urates and other elements form a

nucleus on which uric acid crystals and other crystalizable substances form.

Then the pressure of the calculus will be a source of irritation and traumatism, and so grave renal disease may arise.

To epitomize: renal disease is caused by the invasion of bacteria, or by some toxic or irritating material in the blood. Unusual or long continued increase in blood pressure will greatly aggravate the injurious effects of these toxics. In fact, a long continued congestion, due to cardiac insufficiency, will so change the function and nutrition of the renal tissues that organic disease of very grave nature may result.

DIAGNOSIS OF DISEASES OF THE KIDNEYS.

JOHN E. CLARK,
Detroit, Mich.

The topic assigned to me and the time allowed bear such relation to each other that it will be impossible to consider anything more than the most important affections of the kidneys from a diagnostic standpoint.

A complete classification of diseases of the kidneys involves the following heads:

1. Renal congestion.
2. Renal hemorrhage (including infarctions).
3. Bright's diseases.
4. Pyelitis.
5. Hydronephrosis.
6. Cystic kidneys.
7. Precipitates and concretions (renal calculi).
8. New growths (cancer, etc.).
9. Parasites.

I will eliminate from this classification the rarer organic and functional troubles and confine myself almost entirely to con-

sideration of that scourge of middle and modern life, Bright's diseases of the kidneys. Originally, as is well known, this name was given to all conditions characterized by the presence of albumin in the urine. Experience has shown, however, that so far from indicating in all cases what is now called Bright's disease, albuminuria is often but of slight importance. Ralfe makes the statement that "functional" albuminuria constitutes from one-half to one-third of all the cases of albuminuria that come under notice. I decidedly endorse this opinion. My experience with a large number of cases leads me to believe that even a larger percentage are merely functional; of renal insufficiency or increased arterial tension without any serious renal lesions. There is scarcely a prevalent disease of zymotic, traumatic, inflammatory or toxic origin which will not at some period in its course show traces of albumin in the urine, if careful and constant analysis be had. These Bright's diseases in their protean forms are rapidly coming to the front as competitors of tuberculosis for the horror and destitution of mankind and, unfortunately or fortunately, are mostly confined to the leisure class or the class of patients to whom work in the way of physical exercise is almost unknown. These diseases become chronic chiefly with the high-livers, the brain-workers, and the men about town; the laborer, farmer, artisan only occasionally falling a victim. The acute and sub-acute forms which are of the same nature most frequently are caused by exposure, cold, dampness and poor diet. Often these forms are caused by irritating medicines, such as copaiba, phosphorus, arsenic, lead, mercury, and I have had one instance following nitrate of silver.

An important symptom of renal disease mentioned in the text-books is pain in the back. I fear that I am somewhat heterodox when I state that in no single instance in my experience have I met with this as a prominent symptom. In fact, I am convinced that pain in the back is not a symptom of either acute or chronic nephritis, and that when it does occur it has no reference to kidney disease but is merely a more or less marked lumbago.

Distinction between acute and chronic forms of Bright's disease is readily made from the history of the patient and the character of the onset of the disease. They have nearly the same subjective and objective symptoms, modified of course, but no clearly defined line of demarcation.

Of the acute forms Delafield describes three varieties:

1. Acute degeneration of the kidney.
2. Acute exudative nephritis.
3. Acute productive nephritis.

There are two prominent varieties of the chronic form:

1. Exudative chronic nephritis.
2. Non-exudative chronic nephritis.

Some writers insist upon many different varieties of renal lesions under these heads, but to the every-day practitioner any attempt to diagnose these sub-varieties with accuracy is difficult and often impossible.

Of the thirteen different lesions which are recognized by the expert, each may be classified under one of the above heads without materially interfering with the necessary therapeutics.

Exudative chronic nephritis is probably better known as "chronic parenchymatous nephritis," fatty degeneration of the kidney, or chronic diffuse nephritis.

The other, non-exudative nephritis, has been variously termed chronic interstitial

nephritis, sclerotic kidney, gouty kidney, small granular kidney, etc. These two conditions deserve more than ordinary attention inasmuch as the majority of deaths from chronic renal disease are either the interstitial or parenchymatous variety.

Exudative chronic nephritis is a disease characterized by marked degenerations of the glomeruli as well as the epithelial lining of the renal tubules. There is degeneration and desquamation of the tubular epithelium, kidney is enlarged, pale, and capsule non-adherent in many cases. It is this form of Bright's disease where inter-tubular tissue is involved that we have such marked edema and dropsical effusions. In advanced cases the diagnosis is easy. There are two well marked stages, active and passive, or non-active, and the course of the disease is characterized by frequent transpositions from one stage to the other.

The most marked prodromata in the incipient stage are the lassitude with headache and slight vertigo, which are the symptoms which bring the patient to consult the physician. An examination of the urine at this stage will show the color abnormally high, quantity very small, specific gravity as high as 1030, albumin abundant with large hyaline and coarse granular casts and considerable amount of cast debris. As the disease progresses fatty casts make their appearance.

Following the lassitude and headache, symptoms of dropsy develop, puffiness of the hands and eyelids and a general anasarca follow. About this time disturbances of digestion make their appearance, such as nausea, hyperacidity and flatulence, then insomnia, hemorrhages and uraemia with convulsions.

A most characteristic symptom is the

activity of the disease at times, followed by a retardation so marked as to give the patient false hopes of recovery. Its diagnosis by urinalysis is not difficult, albumin is abundant, from one-half to four per cent. by weight; when it exceeds two per cent. it will solidify when heated in a test-tube. Blood may be present if the disease be complicated by an acute process.

Of the non-exudative or interstitial nephritis, urinalysis shows urine color of water, and the quantity very large, specific gravity very often below 1005, albumin frequently absent. Careful examination may at times discover a trace. As a rule, no casts are found, but by the aid of the centrifuge occasionally hyaline casts may be discovered. It develops slowly and insidiously and like the exudative variety it is first characterized by a lassitude and muscular weakness. Excessive arterial tension with cardiac complications ensue. Often the first symptoms to which the physician's attention is directed by the patient is the precordial disturbances. A physical examination may show accentuation of second sound of the heart with hypertrophy of left ventricle.

There is present the same digestive disturbances as in the parenchymatous form, severe headache and ocular disturbances, but no noticeable edema is present. Occasionally a slight puffiness of the ankle is noticeable. In the interstitial form even an advanced stage of the disease may be accompanied by considerable mental and bodily activity, pulse is high, walls of the vessels thickened, tension increased. There is sleeplessness, failing vision and shortness of breath. Diarrhoeas are serious and frequent, hemorrhages from the nose or into the menin-

ges may occur, tinnitus aurium is not uncommon. Diagnosis by urinalysis is difficult owing to the fact that the urine, except in quantity, is not far removed from normal. A large amount of albumin in urine and a marked edema argue against this form of disease. There is no disease in which an unfavorable prognosis is more justified, provided a correct diagnosis is obtained, but many autopsies have demonstrated that degeneration of the kidney often fails to follow a manifestation of many or nearly all of the symptoms above enumerated, while on the other hand an advanced structural derangement of the kidney may be present with but simple gastric irritability as an indication.

By far the most important means of diagnosis of renal disease is urinalysis; this, however, has its limitations. Diagnoses based on this entirely may be quite erroneous. The time is past when the discovery of albumin in the urine authorizes the physician to give fatal prognosis, in fact, the presence of hyaline or granular casts in combination with the albumin, which is much more indicative of serious renal disease, should only warrant a more careful review of all concomitant symptoms before a positive diagnosis be given. I do not wish to detract in any way from the importance to be attributed to the presence of albumin and casts as a valuable factor for determining grave kidney disease, but I consider there are other indications as necessary of determination. Diseases of secondary importance, by this I mean those from which recoveries are frequent, are often accompanied by excessive quantities of albumin and various casts, no special cast being characteristic of any given disease. An acute parenchymatous metamorphosis of the kid-

ney is characterized by abundant albumin, while a more serious condition, such as interstitial nephritis, gouty, waxy, sclerotic kidney, diseases almost invariable fatal, usually show no albumin and negative results on microscopical examination. As a rule in these cases, no casts are found, or only an occasional hyaline, while diphtheria, measles, fevers, erysipelas, smallpox, acute infectious diseases, articular rheumatism, gout, lobar pneumonia, pyaemia, endocarditis, dysentery, carbuncles, suppurative processes, lead poisoning, etc., not only respond to the test for albumin but also give at some time in the course of the disease many and various casts.

Albumin also occurs transiently in moderate quantity in other conditions. It is often found following grip, accompanies dyspepsia, and I have frequently found it in the urine of athletes after exertion. In these cases it is probably due to a vaso-motor-paralysis with renal capillary relaxation.

Dr. J. F. Henkel, of Detroit, has recently drawn my attention to a case in which the administration of mercury is followed by hyaline and granular casts. They disappear when the administration is stopped.

I believe that the rapidity with which certain substances are eliminated by the kidneys is an exceedingly valuable aid in diagnosis. It has been shown by Bassett, *New York Medical Record*, that in chronic nephritic conditions there is a retardation in the elimination of many substances by the kidneys. I have made many experiments, more especially with the iodides, which are eliminated in from a few minutes to as many hours. The iodide of potassium is probably the most satisfactory to experiment with, although

other substances, such as the turpentine, salts of quinine and bromides, asparagus, etc., give very satisfactory results. My experience with iodide of potash is such as to justify the statement that within reasonable limits the time required for its elimination is in direct ratio to the degree of chronic nephritis. To detect the iodides or bromides, all that is usually required is the addition of chlorine water and bi-sulphide of carbon to the urine.

The centrifuge marks a new era in urinalysis, inasmuch as it permits approximate results to be quickly known. It is unscientific and cannot be relied upon in quantitative work, but is of especial value in presenting for microscopical examination urine sediment. We also have new methods for detecting the presence in small quantities of albumin in the urine. It is well known that of all the multitudinous re-agents used for the detection of albumin none are quite so satisfactory and safe as Heller's modification of the heat and nitric acid test, the well known zone test. This has not met the popular approval to the extent it warrants, owing to difficulty of its application, which necessitates underlying the urine with a stratum of nitric acid. To facilitate, an admirable little apparatus called "Horismascope" has been devised and answers the purpose of detecting minute quantities of albumin. F. A. Thompson & Co., Detroit, present a simple, cheap and effective design for the same purpose, which avoids the annoyance usually attending the application of the zone test.

There is little doubt but that the X-Ray will be added to the armamentarium of the physician as a very effective means of diagnosis in the chronic varieties of Bright's disease. The enlarged kidney of the parenchymatous form, it is

claimed by some, can even now be determined from the interstitial in thin and emaciated subjects, and considerable work has been done with this end in view. Skiagraph shadows of the kidney in adults have been found very indistinct, but with children some quite satisfactory results have been obtained. This, be it remembered, in the immediate past. May we not hope that the progress of the last few years may be but the inception of what shall prove to be a glorious future for this mode of physical diagnosis?

URAEMIC COMPLICATIONS IN DISEASES OF THE KIDNEYS.

JOHN MCLURG,
Bay City, Mich.

Before taking up the uraemic complications of kidney diseases, I will refer to the etiology and pathology of uraemia. Is it an auto-intoxication due to the retention in the blood of the ordinary urinary salts, as urea and other products of tissue metabolism, or is it due to the toxic products resulting from the perverted function of diseased kidneys?

The most generally accepted view is that it is due to accumulation in the blood of excrementitious material which should be carried off by the kidneys.

Cases of obstructive suppression of urine throw a good deal of light on the pathology of this condition. In these cases the absence of marked symptoms of uraemia is very striking. Cases are on record in which, though there was total suppression for several days, not a single bad symptom was observed. Dr. W. Mitchell Stevens, of England, reports a case of death due to obstruction of both ureters by calculi. For seven days not a drop of urine was passed, nor could any

be obtained by catheterization. The only symptoms observed were a gradual and progressive loss of muscular strength, gradual enfeeblement of the pulse and respiration, slightly contracted pupils and obstinate constipation. There was no nausea, vomiting or twitchings. The mental condition remained clear to the last and the immediate cause of death was probably respiratory failure.

In non-obstructive suppression, although a small quantity of urine may be passed, the cases as a rule end fatally in a few hours or a day or two, and uraemic symptoms are prominent.

It is obvious, therefore, that uraemia does not depend solely on an accumulation in the blood and tissues of the body of the excretory products, such as urea, which is normally excreted in urine. In non-obstructive cases the suppression is due to acute pathological changes in the kidneys.

In obstructive cases the suppression is due to a mechanical cause outside the kidneys, which may be perfectly healthy and which will resume their normal function on the removal of the obstruction.

In cases of obstructive suppression the excretory function only is in abeyance, whereas in non-obstructive suppression some other function besides excretion is affected. Of course the abolition of the excretory function alone will cause a fatal result, but this is only delayed for some days, in one case twenty-two days, and the symptoms of uraemia are late in appearing and may be absent for as long as ten days or more, and then are not pronounced. Convulsions and coma rarely occur and the mind remains clear to the end. The explanation of this probably is that the kidneys are practically healthy and carrying on their other functions.

These other functions are possibly due to some internal secretion which has some influence on certain metabolic processes as yet unknown (Stevens).

Large quantities of urea may be administered to healthy animals without causing uraemic symptoms.

Causes.

The conditions of the kidneys which cause uraemia are the various forms of Bright's disease, and most commonly the chronic form.

Symptoms.

The symptoms of uraemia are mostly all referable to the nervous system but manifest themselves in various organs and parts of the body.

They are headache, nausea, vomiting, dyspnoea, irregularity of heart, impairment of vision, uraemic amaurosis, convulsion, coma, transient aphasia and sometimes acute mania.

The headache is usually occipital and extends to the neck. It is often one of the earliest symptoms.

The gastro-intestinal symptoms are often very marked and the vomiting sometimes uncontrollable and thought to be due to the action on the gastric mucous membrane of urea, as carbonate of ammonia, into which it is decomposed, is found in the vomited matter.

The dyspnoea is usually paroxysmal and worse at night. It is generally called renal asthma. Cheyne-Stokes breathing is quite common.

The pulse is usually slow, but during and after a convulsion is rapid and weak.

Impairment of vision in these cases is generally due to albuminuric retinitis, but in some cases we have complete blindness with no appreciable change in the retina, the visual centers being affected by the

toxic elements. These cases generally recover their vision in a few days.

Convulsions are the most common and severe symptoms of uraemia and they generally come on suddenly and unexpectedly, being often preceded by headache. They are apt to recur at short intervals, the patient being unconscious between the seizures. They may cease for a time as the disease progresses.

Coma.—A convulsion sometimes ends in coma, but this may develop gradually without any convulsion. Headache is usually a prodromal symptom of coma and this may come on without any intimation of previous renal disease.

Aphasia may be the precursor of convulsions or coma. It occurs most often in children in cases of scarlatinal nephritis. It is generally transient in character. Some of the other symptoms of uraemia are intense itching of the skin, aching pains in the legs, cramps in the calf muscles, especially at night.

It has been my experience that where there is much general odema the uraemic symptoms are absent altogether or not nearly so prominent. One of the worst cases of uraemia that I have ever seen had not the slightest odema during the progress of the disease.

OCULAR MANIFESTATIONS OF NEPHRITIS.

WALTER R. PARKER,
Detroit, Mich.

The ocular conditions arising from disease of the kidney which are of the most interest to the general practitioner are uraemic blindness and retinitis albuminurica.

In uraemic blindness the patient declares that everything becomes dark be-

fore his eyes; the disturbance of sight increases so rapidly that the blindness gets to be complete within a few hours. Eye examination is negative. After one or more days the sight is gradually restored. Coincident with the attack of visual disturbance, other nervous symptoms characteristic of uraemia manifest themselves. The lesion is probably central, being produced by the poisonous action on the nervous centers of material accumulated in the blood as a result of the diseased kidney.

The most characteristic of the inflammations of the retina is albuminuric retinitis. In addition to the general signs of retinitis, such as haziness of the retina and nerve, changes in the retinal vessels and hemorrhages, it is particularly distinguished by the white patches in the fundus, arranged as a stellate crown with the mammula lutea as its center. The pure white appearance is due to the fatty degeneration of the retinal elements and of the exudate.

Every form of kidney disease which results in albuminuria may be complicated with retinitis, but the one most frequently so complicated is the atrophic kidney of chronic interstitial nephritis. It is rarely found in the so-called large white kidney, more rarely still in acute nephritis, as seen in pregnancy after the acute exanthemata, especially scarlet fever; and less frequently in variola, measles, erysipelas, diphtheria or lead poisoning.

Both eyes are almost invariably affected and so characteristic is the picture in typical cases that from it alone the diagnosis of albuminuria may be made. Many cases, however, do not show this characteristic appearance so that the etiology of the retinitis is determined only by the examination of the urine.

The period of the renal disease at which the retinal changes develop has not been accurately determined, but in many cases it corresponds to the cardiac hypertrophy.

The connection between the kidney lesion and the retinitis is said to consist in a development of a disease of the walls of the vessels in the retina, in consequence of the altered composition of the blood, a disease which results in inflammation and degeneration of the retina itself.

Theodor holds (Norris and Oliver) the main factor in the pathogenesis of albuminuric retinitis to be an arteritic process of all the blood vessels of the eye, with narrowing of the lumen, especially of the smaller vessels.

The severity of the retinitis bears no fixed proportion to the intensity of the kidney disease, nor to the amount of albumen in the urine. The retinitis may improve while the kidney lesion grows worse, or the reverse may be the case. As a rule, however, the proportion is direct and in chronic cases a marked albuminuric retinitis is of evil prognostic significance.

The retinal involvement makes itself known to the patient only by a loss of vision, the acuity of which is more or less variable.

If the improvement does not depend on a betterment in the kidney disease, it does not last. Blindness almost never results, the retinal disease being of graver prognosis in regard to life than to vision.

In acute cases, as in pregnancy, and after scarlatina, the retinitis clears up as the kidney lesion improves, leaving little or no trace behind.

In chronic cases, however, a different picture presents itself. From ten to fifteen per cent. of patients suffering from

chronic nephritis have albuminuric reinitis.

The prognosis is always very serious. Seventy to eighty per cent. die within twelve months from the date of the onset of the retinal disease, and ninety per cent. within eighteen months. Depending upon the nature of the kidney lesion and the conditions under which the patient lives, a few may survive several years.

Nothing can be done in the way of local treatment, other than protection by means of colored glasses.

THE CEREBRAL COMPLICATIONS OF KIDNEY DISEASE.

IRWIN H. NEFF,
Pontiac, Mich.

When considering the cerebral complications of kidney disease, it is well to emphasize these facts:

(1) Any syndrome which may develop is often more or less diversified and atypical.

(2) The variation in symptomatology is dependent upon the extent and multiplicity of the lesions.

(3) The symptoms are not always dependent on uremia, or the retention of effete products; and are not infrequently expressions of the generalized arterial fibrosis, which often accompanies chronic renal disease.

If we have these principles firmly fixed in our minds, we have a good working basis for the brain symptoms of kidney troubles. The cerebral complications of renal disease are dependent upon toxæmic states, localized or generalized oedemas, hemorrhage, anaemia, thrombus and embolus.

Henry P. Loomis (American System of Practical Medicine, Vol. 2, page 744)

has well expressed the brain symptoms which develop during the course of chronic interstitial nephritis.

His classification is as follows:

(1) Disturbance of motor center: uremic convulsions, epileptic convulsions, tremors, localized contraction of muscles, especially those of neck and face.

(2) Disturbance of physical center: delirium, hallucinations, vertigo, coma, melancholia.

(3) Sensory center: deafness, blindness, and hemiopia.

(4) Center of respiration: dyspnea, Cheyne-Stokes respiration, laryngeal spasms.

(5) Center for heat regulations: hypo- and hypothermia.

It will thus be seen that the symptoms are somewhat diversified, and are dependent—as stated above—upon the seat of the pathological lesion.

Variation in the syndrome of the cerebral seizures—if I may so call them—is interesting and suggestive. Thus we may have localized cerebral symptoms; such as paraphasias and other speech difficulties, localized sensory disturbances, particularly the acro-paraesthesias and more commonly headache, vertigo, and other general brain symptoms; and as an aid to the prognosis, it is well to state here that such symptoms are often transitory and yield quite readily to symptomatic treatment.

As demonstrating this condition, I would refer to two cases recently under my care. In one case, a Broca aphasia was unassociated with other nervous symptoms. The other patient showed a well marked right hemiplegia. Both individuals recovered from their respective symptoms when placed under milk diet treatment. It is also noteworthy to state that in these cases, renal disease was not

suspected prior to the onset of the brain symptoms.

The uremic symptoms are, of course, paramount; but it should be remembered that uremia is not always the cause of these cerebral symptoms. The generalized vascular fibrosis which accompanies the forms of chronic nephritis is an etiological factor in the production of hemorrhage and thrombotic deposits. Unquestionably many of the isolated cerebral symptoms which are observed in the "granular kidney" are due to such lesions. In this connection it is well to mention that a sub-pial oedema of inflammatory nature not uncommonly occurs, and may be more or less diffuse.

Persistent headache and neurasthenic symptoms are often primary symptoms, and are frequently seen in the first stages of the disease. As is well known, cerebral hemorrhage occurs with a fair degree of frequency. The fact that this may be dependent on the secondary cirrhotic arterial change of chronic kidney disease is often forgotten.

When estimating the importance of any cerebral symptom of renal derangement, it should be remembered that chronic Bright's disease is attended with general somatic changes. Any localized symptom or syndrome is dependent on (1) the accumulation of toxic products in the blood and their consequent action on nerve tissues; (2) changes in the walls of the blood vessels, permitting a serous exudation which may be more or less diffused; or (3) the changes in the vessel walls may be so pronounced that there may be a rupture of the coats, producing a hemorrhage, or a formation of a thrombus. Localized cerebral symptoms are indicative of oedema, thrombosis, or hemorrhage; or on the other hand generalized symptoms;

such as coma, delirium, convulsions, and the psychoses which are dependent on uremia, or some other form of toxæmia.

In the light of recent knowledge, we must not regard the term "uremia" as explanatory of all the nervous symptoms of kidney disease. It is a convenient term, but no doubt often incorrectly used. An examination of the urine of suspected cases of "uremia" will not uncommonly show that, not only is there a normal percentage of urea, but that there is no well marked change in the toxicity of the urine. We are thus forced to consider the symptoms as directly dependent upon the fibroid arterial changes.

Although the cerebral symptoms of kidney disease occur as a rule after the disease is advanced, they may be the first objective signs; that is, symptoms which lead to an investigation for disorderly kidney function.

In conclusion I would offer the following summary:

(1) The cerebral symptoms of Bright's disease are dependent upon a lesion, which may be localized or diffused.

(2) The syndrome quite often shows variation in intensity of symptoms, and their sudden appearance or disappearance is characteristic.

(3) While the brain symptoms are generally terminal or appear late in the disease, a development of general or isolated symptoms is not infrequently seen in the early stages of kidney degeneration.

(4) Persistent headache and a neurasthenoid state are suggestive of disordered kidney function.

(5) The generalized cerebral symptoms, such as headache, general convulsions, and disturbance of the sensory, motor, and psychical centers are more commonly dependent upon toxæmia.

(6) The localized cerebral symptoms are generally related to the vascular change; being the expression of the cirrhotic arterial change which accompanies the kidney degeneration.

(7) Uremia is a term often loosely applied to account for many obscure nervous symptoms. Its use should be restricted to these cases, where the condition can be determined by thorough urinalysis.

TREATMENT OF DISEASES OF THE KIDNEYS.

JOSEPH B. WHINERY,
Grand Rapids.

If I understand the scope of the subject under discussion, we are dealing with nephritis in its acute and chronic forms and the remarks made with reference to treatment will apply to these diseased conditions only. In discussing the treatment of so common a disease as nephritis, I can merely review in a brief manner points which are generally recognized by the profession.

In the treatment of acute nephritis, irrespective of the cause, the patient should be guarded against exposure; he should be clothed in flannel garments and kept in a bed provided with blankets. The diet should be bland—at first milk given in small amounts well diluted with lime water or some mineral water. The milk should be gradually increased until one or two quarts are taken a day, and gruels should gradually be added. On account of the engorgement of the vessels of the kidneys, a liberal amount of water should be given at stated intervals. In addition I have found the well known drink of a dram of cream of tartar in a pint of lemon juice a useful one.

As a rule, very little medicine is needed to control the fever. Liquor of ammonium acetate usually being sufficient. Elimination by the skin and bowels is indicated. Hot drinks, such as lemonade, or the use of a hot-water or hot-air bath, followed by wrapping the patient in a blanket, will usually cause free diaphoresis. When these means fail and there are symptoms of uraemia or marked oedema, pilocarpine may be given hyperdermatically in doses of $1/10$ to $1/6$ of a grain. One must bear in mind two points in regard to the use of this drug; one is that it is a heart depressant and if necessary strychnine should be used with it; and the other is that it causes a free secretion into the bronchial tubes and in oedema of the lungs the result may be disastrous. The salines are the best purgatives to use as they do not irritate the kidneys. Epsom or Rochelle salts are usually efficacious. Compound Jalap powder is also a safe and efficient hydrogogue cathartic. A most powerful aid in stimulating the action of the skin and kidneys is the use of a normal salt solution, given either subcutaneously or injected well into the rectum. Punctures in the skin or the use of Southey's tubes are measures indicated only in cases of marked oedema not relieved by the means already mentioned.

Pericardial and pleuritic effusions increase the danger of renal dropsy and aspiration is sometimes imperative. For the relief of pain, suppression and haematuria, counter-irritation to the back by cupping or the Paquelin cautery or the use of hot applications are the methods commonly employed. Convulsions depending upon uraemia are to be treated by active elimination. Saline solution and hot packs are indicated. Chloroform may be used to control the convulsive seizures. In suitable cases, bleeding to

the extent of one or two pints is of aid. For obtaining quick and active purgation, elaterium or croton oil may be resorted to.

After the kidneys have started to secrete freely, farinacious food may be gradually added, followed by the return to simple vegetables and mild fruits. It is best to withhold eggs, meat and alcoholic stimulants until the urine is free from albumen.

We have no reliable remedy for a persistent albuminuria. Anaemia is usually present and during convalescence a bitter tonic and iron is indicated. It has been my custom to use Basham's mixture at this time. The general improvement in the condition of the patient, especially in that of the blood, may exert a favorable influence over the albuminuria. Patients who have been through an attack of acute nephritis should be cautioned about their eating and warned about sudden changes of temperature. The urine should be examined at intervals for at least a year following the attack. Subacute attacks of nephritis occurring in the course of a chronic trouble should be treated along the lines already laid down.

Chronic Bright's disease is classified under two general heads, chronic parenchymatous nephritis and chronic interstitial nephritis. The first form usually, but not invariably, follows an attack of acute nephritis. In parenchymatous nephritis, care should be taken in regard to the diet, but it is hardly practicable to limit the patient to milk. It is quite generally believed that a moderate amount of good wholesome food is necessary. The skin and bowels should be kept in an active condition. As the urine is usually diminished in quantity and the amount of solids excreted also diminished, attention should be paid to this. Water in liberal amounts should be taken and in condi-

tions calling for a more active diuresis the cardio-vascular diuretics are perhaps the most useful. It sometimes happens that when you most need the action of a diuretic in chronic Bright's disease it fails. The infusion of digitalis itself or combined with acetate of potash is usually effective and diuretin has within recent years gained considerable prominence. In this form of nephritis with anaemia, iron is well tolerated. Complications which arise in the course of the disease are to be treated as in a case of acute nephritis.

In chronic interstitial nephritis, coming on as it usually does in a slow and insidious manner, the treatment is more hygienic and dietetic than medicinal, the fewer drugs the better. The disease usually manifests itself about middle life or later, but it is sometimes present in young people and even in children. In families with an hereditary history of the disease or with a tendency toward an early degeneration of the arteries, there should be such regulation of habits of living as to subject the kidneys and circulatory apparatus to a minimum amount of work. This is a disease in which preventive measures play a most important part. Too much work thrown upon the kidneys is at the bottom of the trouble.

When we consider that most of us eat 30 or 40 per cent. more than we need and that the kidneys are called upon for an excessive amount of functional activity, we can readily understand that such changes may take place as will result in interstitial nephritis. A large amount of nitrogenous food with accompanying sedentary habits tends to the establishment of this disease. Overwork, worry and mental strain are causative factors. Alcohol, syphilis and a few other toxic elements may be considered responsible for chronic Bright's. As a prophylactic

measure in suspected cases it is best to cut down the quantity of the proteids. Butcher's meat should be sparingly used and limited to one meal a day. Fish and poultry are allowable as affording a change in diet. Peas and beans are best left alone. Sugars and starches should be restricted, especially when there is a tendency to obesity. Alcohol and tobacco should be interdicted. Exercise proportionate to the individual case should be prescribed; it is harmful for such cases to take exercise of so violent a nature as to produce fatigue.

The ability to adjust habits to the changes of advancing years, as the regulation of diet, exercise, fresh air and outdoor life, are the keynotes in the prophylaxis.

No doubt there is an early stage of the disease in which it is difficult to make a diagnosis, but I think it quite frequently happens that the physician does not recognize the trouble when decided symptoms are present. Careful examination of the urine and a proper appreciation in the changes of the heart and blood vessels will lead to earlier diagnosis. There has been a tendency to rely too much upon the examination of a single sample of urine, too little importance being attached to the small amount of albumen usually present. We should remember that there is no relation between the amount of albumen present in the urine and the extent of the kidney involvement. In suspected cases make repeated examinations of the 24 hours' sample of urine. An increased quantity of a low specific gravity, containing a small amount of albumen, casts few in number and a deficiency in solids are the most important points to be noted in making a diagnosis. This condition of the urine is almost invariably accompanied by an increased arterial tension,

with or without noticeable thickening of the arteries, hypertrophy of the left side of the heart and an accentuated aortic second sound.

If the disease is not diagnosed until after it is well established, the general rules referred to under prophylaxis are to be observed. Although it may be possible to restrict the use of proteid food, it is hardly practicable to cut down to milk alone. When we consider that people affected with chronic Bright's often live for years after the disease is discovered, we see that an adherence to a starvation diet of milk would become rather monotonous. Fats, vegetables, fruits and cereals allow a fairly wide range of diet. Woolen underclothing should be worn the whole year. In regard to the influence of climate it is said that there should be as little cold, moisture and variation in the temperature as possible; that a hot, dry climate is better than a cold, dry climate. The states in our country most unfavorable for patients suffering from kidney disease are New Jersey, New York, Massachusetts, New Hampshire, and Vermont, and the most favorable are Tennessee, Georgia, Nebraska, North Carolina, Arkansas, Texas and certain parts of southern California. The condition of the heart naturally influences the selection of a climate for those seeking relief from kidney trouble. In many cases symptoms arising from the vascular system gives us most concern. In the treatment of Bright's disease we should not regard it as purely a renal trouble and lose sight of other important organs. The state of the kidneys is often the last thing to attract the patient's attention. Many people die from cerebral hemorrhage, cardiac trouble or some other complication arising from chronic nephritis without the correct diagnosis being made. Aside from the

polyuria, coming on as it does in a gradual manner, there is little if anything to direct his attention to his kidneys.

The medicinal treatment should be restricted to the indications as they arise; we have no remedy which will influence interstitial changes in the kidney although potassium iodide and mercury given in small doses over a long period of time are reported to act in a curative manner. With a tense pulse, cardiac hypertrophy, vertigo and headache, iodide of potassium or nitroglycerin will give good results. Under a strict non-nitrogenous diet with free catharsis, cardiac hypertrophy will often be diminished (Purdy). As long as the vascular tone is good the heart does its work and there is little trouble, although the kidneys may be badly damaged. When the heart begins to fail on account of degenerative muscle changes, dilation occurs, the valves begin to leak and tension is reduced. Under these conditions digitalis and strychnine are the drugs to be relied upon. Rest in bed should be strictly enforced. The gradual introduction of cardiac gymnastics according to Schott and the Nauheim baths are beneficial in restoring to some extent the tone of the heart.

Gastro-intestinal, nervous manifestations and other complications are to be treated in the simplest way possible.

Within the last three or four years surgery has been resorted to in the treatment of chronic Bright's. To Dr. Edebohls belongs the credit of being the first to employ surgical means for the relief of sufferers from chronic interstitial nephritis. The results obtained in a series of cases from peeling off the capsule and puncturing the kidney have been encouraging, and apparent cures have resulted.

DISCUSSION.

GEORGE DOCK, ANN ARBOR.

I think when Dr. Clark says that he finds functional albuminuria more common than organic albuminuria he opens the way for a certain amount of error. It seems to me that the profession has wisely withdrawn from the early position of Ralfe and others, according to whom many cases of albuminuria were to be called functional. If by functional we mean that the disease is not going to cause permanent damage to the kidney, of course that is quite proper. In the same way we might say that bronchitis was a functional disease because the lung is not permanently damaged, and yet a man may have severe and even dangerous disease in his bronchial mucous membrane; so may a patient have a severe disease in his kidneys without causing fatal or even permanent severe disease in those organs. But at the time that such an albuminuria occurs I think it is rarely safe to say that the patient merely has a functional and ergo harmless albuminuria. I do not think Dr. Clark meant that, but the reiteration of the old statement of Ralfe is certainly calculated to tend to that opinion.

It is certain that many cases occur in which we find not only albumen, but also casts, in which there is very little damage to the kidney. Dr. Clark has mentioned cases following exercise. Those are the most striking cases one can see. In a man, especially one not a regular athlete, but a man who suddenly undertakes unusual exercise, for example, the untrained man taking a long, hard bicycle ride, we can get sometimes a good deal of albumen and sometimes the most beautiful casts, and many of them, that we ever see, and yet those patients (and some of them I have followed for a number of years) never have a serious kidney symptom. On the other hand, we see the same sort of symptoms, namely albuminuria and casts, in varying quantity, in patients with certain diseases, especially of the toxic kind such as Dr. Clark mentioned—cases of typhoid, of pneumonia and erysipelas, and, in fact, one might say any of the acute infections.

Now I think it is a great mistake if we speak of the changes in these cases as cases of nephritis, and I try very hard in my teaching and practice to avoid that. It seems to me rather unfortunate that writers have not followed the hint given many years ago by Weigert, and followed ever since then by Ziegler in his text book, according to which we should speak of these not as cases of inflammation of the kidney, but as cases of degeneration of the kidney. There are cases very

often merely of degeneration of the kidney epithelium, in which the albuminuria and casts are very striking, especially the casts, not so much the albuminuria usually, and yet usually the patients recover from those conditions; one can see them after very trifling fever, sometimes the acute anomalous fevers that last only two or three days, sometimes very strikingly in pneumonia and typhoid fever. And yet I think that in the acute stages we are not always able to say whether these conditions really are mild; we usually find that they are mild and yet it seems to me that we make a great mistake in those cases if we do not daily examine the urine microscopically and chemically, and if we do not also have the urine measured so as to give an accurate idea of the total quantity excreted, and one may even go further and examine for urea, solids, etc., for in some of these cases one can find uremia developing very suddenly, and in some other cases we find secondary changes coming on after a long period. It rarely happens that uremia comes on in typhoid fever as a result of the kidney alteration, and yet it sometimes does and a patient may go into a dangerous or even fatal condition before one expects it, if the urine has not been examined. Such a patient may have urine very much like the urine we get in scarlet fever. After typhoid it does not so often happen that we get late changes in the kidney following such infections or intoxication; in scarlet fever we more frequently get it. How often we see cases developing symptoms of chronic interstitial nephritis, between 20 and 30 years of age, where there is no history at all that can account for it except the history of scarlet fever in early life. So that in either of those events, whether from a mild infection, for example from typhoid, pneumonia, or after scarlet fever, I think it is useful to advise the patient to have his urine carefully examined at least once a year, better twice a year, and to have a careful examination made of the whole quantity for twenty-four hours, or if there are reasons for expecting a severe change in the kidney, to have a number of tests made through several days at such periods.

It seems to me important to remember, and it is rather difficult to do so, how variable the changes are in different parts of a single kidney and how the different parts may be impossible of distinction by the ordinary clinical signs. I was glad that Dr. Clark laid stress on the necessity of a complete examination of all patients suspected of kidney disease. Nothing would be more untimely now than to base one's diagnosis of a kidney disease merely on an examination of the urine, no matter how complete or how careful,

using the most complicated methods. The examination of the whole patient, especially of his circulatory organs, of his serous membranes, of his stomach, of his eyes, of his brain, in various ways, all these are extremely important, and, in fact, essential. It is only by such careful examinations that one can hit at all on a safe prognosis in certain cases in which the urine is not at all a safe guide. Perhaps a brief allusion to a couple of cases that have come under my observation lately may make my idea clearer. I have in mind a man beyond middle age, who, to my knowledge, for four years has constantly had, whenever I have examined his urine, a number of times a year, a considerable quantity of albumen, that is, about one-fourth on standing, after boiling and adding nitric acid sometimes as much as a half, who always has large numbers of casts of all kinds, largely hyaline, with or without granules, and always with a few casts containing epithelial cells and sometimes leukocytes, sometimes blood; this patient, however, has no other symptoms at all, he is able to do a great deal of work, he only has exacerbations as a result of overwork, especially combined with slight excess, perhaps, in the use of alcoholic drinks; and yet only the day before I left home I had a letter in regard to a patient who has an exactly similar urine, who has been under my observation only a few months, and who has changes in his eye ground, in contrast to the other patient who had no eye changes, such as Dr. Parker has described. In this case I made a bad prognosis, based on the existence of albuminuric retinitis, for my experience in such case is that it usually ends within a year after the changes in the retina are found, frequently within six months, and yet in this case, after sending the patient south for the winter, I heard only the day before I left home that he was apparently in a hopeless condition. [He died a few days after the meeting.]

In another case, where the urine was so much like the one I first mentioned that as I examined them one time on the same day, it was impossible to tell under the microscope which was which—the patient had heart symptoms, along with his urinary symptoms, and his general condition was distinctly cachectic; he had among other things an old sinus which occasionally suppurated, and the question was asked whether it was safe to treat this radically, and especially whether it was safe to treat it with strong antiseptics. I advised the patient and his physician to treat the case as mildly as possible, and counseled especially against salicylic acid, which had been used as an internal antiseptic; however, the patient was put on large doses of salicylate of sodium for the purpose of

quickly healing up the sinus, and whether as a result of that, or as merely a coincidence—at any rate it struck me as being rather instructive—the patient died very quickly.

In regard to the methods of testing for albumen, I would like merely to reiterate Dr. Clark's statement that practice in the use of a safe method is the best thing. There are hundreds of methods, many of them are good, a great many of them are not very good, but given a fairly good method, the most important thing is to have practice in the use of that method. And I know of nothing more instructive than to take a couple of hours to the testing of a specimen of albuminous urine, and especially by making various dilutions. As regards the overlying tests, the instrument that Dr. Clark has shown is no doubt very useful. I would like to point out, however, that a simple, ordinary straight glass tube is just about as good, in my opinion. One simply gets a few drops of urine in the tube in the ordinary method, then after carefully washing off the outside of the tube, so as not to contaminate the nitric acid, allowing the nitric acid to run up by having the nitric acid bottle rather full, and in that way getting a small column, a narrow column and one that shows the difference very well. With practice one can recognize the different kinds of rings very accurately. And in addition to the matter of heating the tube for the detection of urates, I would like to add that microscopical examination, by simply dropping out the ring on the slide, is very often also of a good deal of assistance, especially in distinguishing between the alkaloidal precipitates and urea, or uric acid.

In regard to the treatment of kidney disease, Dr. Whinery's summary was extremely sensible and full. The chief thing is to treat the patient; there is no treatment, of course, for any of the forms of kidney disease, the thing to treat is the individual, and how to treat him you can only tell after examining thoroughly all the features of the case. I would like to protest, however, against the idea that Edebohls or anybody else who advises operations for the cure of kidney disease has yet proved his point. It seems to me if you will read Edebohls' article carefully you will have a good deal of difficulty in convincing yourselves that the diagnoses were always right, and how anybody can be sure that he has cured a kidney disease within a few months after finding the patient recovering from an operation, is something I have not been able to discover from anything I can find out clinically or anatomically about alterations of the kidney. That slitting the capsule may improve the circulation in the kidney, I do not at all doubt, and I might be willing to

recommend such an operation, although I have not found the patient in whom I thought it was necessary; but that one can predict that such cases can be cured, it seems to me we are by no means able to say. And it seems to me rather interesting to observe that this new discovery in surgery is coming on just at a time when a conservative wave is striking the surgeons in regard to many other border line cases; they are operating on fewer appendicitis cases than they were a few years ago, and apparently a new field opens itself up in the way of the kidney disease. I would suggest that we go rather slowly in recommending our patients to leave our medical care and take up surgical care for the correction of those kidney diseases.

J. H. REED, BATTLE CREEK.

I am in perfect accord with the principal points made by all three of those gentlemen in regard to the peculiar complications as well as the treatment of kidney diseases. Yet in looking at our program, I find that the Symposium is on the diseases of the kidneys, and in hearing the papers that I have to-day I find that everything is devoted altogether to nephritis or Bright's disease. Those among you who know me know that I have devoted a great deal of attention to the treatment of diabetes, but though diabetes has not been touched upon, I have come prepared to give a little dissertation upon that subject. However, I wish to accentuate as much as I can what has been said by Prof. Dock. He has made one very important point, and that is this, that it is utterly impossible to treat any case of kidney disease by a stereotyped rule; you have got to treat the patient himself according to the physiological conditions. In addition to that I think it was Dr. Neff who spoke of one of the peculiar conditions in nephritis as cardiac hypertrophy. In my experience in the treatment of both diseases, diabetes and Bright's disease, I find that there are two conditions which are almost universally found: one is neurasthenia and the other cardiac hypertrophy; in almost every other condition of both of those diseases they are almost directly opposite.

Dr. Neff also, I think, made the statement that convulsions generally always followed a state of coma in nephritis. That has not been my observation; I always find that coma follows the convulsion, not convulsion the coma.

In addition to this I want to lay stress upon what Prof. Dock has said, as well as what Dr. Neff has said, in regard to urine analysis. Too much attention cannot be paid to making correct urine analysis. I not only subject my patients to

a very careful physical examination, but I have the urine from every micturition; if I have ten, fifteen, or twenty micturitions in the course of twenty-four hours, I examine every one of them, and I not only examine them physically, chemically, microscopically and morphologically, but I try as near as I can to find out just exactly what is the condition and treat them accordingly, and in that way have had some considerable success. I have just recently read a paper before the association in Saratoga, in which I laid down my line of treatment and showed how I have somewhat either progressed or migrated, as you might term it, from the usual line of treatment, which I have heretofore followed and which Prof. Dock has heard me speak of before the Kalamazoo Academy of Medicine a year and a half or two years ago.

I now find in the treatment of diabetes that the liver is more involved, or as much involved, as the kidney, and I treat accordingly.

Another point made by Dr. Neff was that he spoke of transitory albuminuria. That is a case that I have never yet found. I find transitory glycosuria or I find cyclic albuminuria. The distinction and differentiation, according to my standpoint, consists in this, in diabetes we may find a transitory glycosuria, where we have sugar to-day, and may not have to-morrow, and the second or third day, and then the fourth or fifth day it may return, and in albuminuria we may have the presence of albumen in the morning, and it may be entirely absent at noon, and may be present in the afternoon, and here it is that the term cyclic albuminuria is applied in such cases.

The treatment in regard to these cases is as Prof. Dock has said, and as Dr. Neff has said; it consists not only in great care as to clothing and exercise, but a strict diet, as little medicine given as possible, but where medicine is indicated there is nothing in the world to take its place. Dr. Neff spoke of the different alkalines which he used to loosen the bowels, but did not mention one which I have very frequently used, phosphate of sodium, from which I have received very much more pleasure and comfort in the treatment of my cases than almost anything else. Sometimes, however, where there is a very decided hepatic condition, I use the old hepatic pills of aloin, belladonna, strychnine and ipecac in combination.

V. C. VAUGHAN, ANN ARBOR.

Chronic nephritis may be induced in animals in the experimental laboratory by administering gradually increased doses of chromate of potash, and it has been found that the blood serum of

animals thus treated is poisonous to other animals. This suggests that the chromate of potash disintegrates the kidney cells and that poisons are formed in this way. We may possibly find the true factors of uremia by following along lines suggested by these experiments.

H. M. KING, GRAND RAPIDS.

I should like to call attention to one clinical manifestation of arterial capillary fibrosis, as it appears in a chronic nephritis, which has not been touched upon to-day. It may not, however, have any very great importance. It has occurred in my practice two or three times, among public speakers and singers, and in one case in an actor, all of them having lived rather strenuous lives, using their voices of course as a daily occupation. In all cases the first symptom of which they complained was due to an œdematous laryngitis, very mild, and which was attributed to an acute cold, which had been allowed to go on unattended for quite a long time. In all of these cases there was cardiac hypertrophy, without, however, any œdematous condition otherwise in the body than this in the larynx. One of these cases, after my diagnosis, succeeded in passing an examination for life insurance in one of the large eastern companies, and in the examination was subjected to an urinalysis of a twenty-four hour specimen. I merely mention this to show that in one case at least there were no urinary manifestations which were noticed on the examination, although there was at the time of my examination a polyuria. The other two cases presented marked urinary symptoms, and of course could have been diagnosed long before they were, but the attention of the patient had not been called to the condition except through the laryngeal symptoms.

MORTIMER WILLSON, PORT HURON.

I would like to ask Dr. Vaughan for information as to how he determines that the toxic material in this rabbit's blood is from the breaking down of the kidney cell, or from the lack of elimination.

Dr. Vaughan: The cells are broken down; of course we see that with the microscope. And then the determination of the urea, uric acid, etc., in the blood serum shows that there is no large accumulation, no more than is normal.

Dr. Willson: It is known, of course, that urea alone does not cause what are generally known as uræmic symptoms.

Dr. Vaughan: Yes, that is true, that is known.

Dr. Willson: The question in my mind was, how to determine whether this was the product

of the broken down renal cells, or whether it was lack of elimination of some poison unknown.

Dr. Vaughan: We have tried to do this and stopped elimination, and we didn't get this result. This would be the answer to that question.

Dr. Wilson: There is another point I wish to speak on a moment. I think it is a good thing in medicine to be an optimist, and I do not feel in regard to Dr. Edebohls' experiments, as you might call them, surgically, in these cases as one of the speakers does. Certainly quite a remarkable series of cases with very remarkable results is reported, and for myself, from what I know of the gentleman, I should be fairly convinced that he is capable of making a diagnosis, and so I think that I would not close the door of hope in that direction. We know how hopeless medicine and hygiene sometimes are in these cases; in fact, in most of them when they reach a certain stage, and I think it well worth while to keep this other avenue in view.

JOHN E. CLARK, DETROIT.

Dr. Dock's distinction between functional and organic affections of the kidney is to me very satisfactory. It has long been a matter of doubt in the mind of the profession as to whether there can be such a thing as "functional albuminuria." By this I understand a perverted function resulting in albuminuria, the condition not characterized by any change in structure; perhaps the majority of writers insist that there cannot be an exhibition of albumen in the urine without some change in structure, be it permanent or but temporary; while others contend our every-day experience goes to demonstrate that organic change does not occur on every exhibition of albumen in the urine.

Some time ago a theory was advanced by Ludwig which explains the establishment of the name, "functional albuminuria." The theory encourages such terms as "functional albuminuria," in that it accounts for albumen in the urine by pressure, which forces it through the membrane. This in brief is Ludwig's theory, and I believe there is still a certain amount of truth in that theory, although it has been shown conclusively that this in itself is not sufficient to account for what we call or what is called by a great many writers, "functional albuminuria."

In regard to the new treatment for interstitial and parenchymatous nephritis, the so-called Edebohls treatment, this is something that has been known for a good many years. I believe the first man who introduced this puncture in the United States, some few years ago, was Edward Ander-

son; previous to that, Israel of Berlin had operated on a number of cases of nephroplexy, and had found that this operation, which was not conducted for the purpose of treating parenchymatous or interstitial nephritis (puncture of the kidney membrane) did result in the removal of albumen from the urine and also the disappearance of casts. But I agree most emphatically with Dr. Dock that the use of the operation at present is something that should be attempted with a great deal of caution; the point is simply that the diagnosis of interstitial nephritis or even the large kidney is in a great many cases almost impossible. Some of you may remember a celebrated paper, or a very able paper, read at the Pan-American congress, in which the writer, I forget his name now, drew attention to the fact that you may have casts, you may have albuminuria, you may have vertigo, you may have uremia, you may have cardiac complications, and although you may have nearly all the symptoms, you do not have, as you would assume, a pathologic kidney. It has been shown time and time again in the autopsies following deaths from supposed kidney disease, that the kidneys were intact and that a mistake in the diagnosis had been made. This new operation should be most carefully looked into by the practitioner before he recommends his patient into the hands of a surgeon for this treatment, and satisfactory results in operations made for *chronic nephritis* must be obtained in many instances before it receives the endorsement of the practitioner at large.

HILLSDALE COUNTY MEDICAL SOCIETY.

THE JOURNAL is pleased to report a most satisfactory and successful meeting of the physicians of Hillsdale County, held at Hillsdale on August 27th. Through the active efforts of Dr. Bulson, president of the State Society, Dr. Haughey, secretary of the Council, Dr. Hafford, Dr. Whelan, and Dr. Sawyer, and with the hearty co-operation of the medical men of the county, the Hillsdale County Medical Society was organized. Dr. Whelan was elected president; a constitution and by-laws in conformity with the state organization, were adopted. Application was at once made to the State Society for a charter, and the charter has been granted.

The Journal of the Michigan State Medical Society

PUBLISHED MONTHLY

A. P. BIDDLE, M. D., Detroit.....Editor | S. EDWARD SANDERSON, M.D., Detroit, Bus. Mgr.

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Application Made at the Postoffice, Detroit, Mich., for Entry as Second-class Matter.

DETROIT, SEPTEMBER, 1902

THE PORT HURON MEETING.

The last annual meeting of the Society marks a period of progress in its history. For years leading members of the profession have seen the necessity and advantages of organization, that so large a body as the medical profession might wield the influence its interests demand. It is, however, only within the last two years that the American Medical Association has been able to adopt and to urge upon other societies practical methods. It is not necessary here to enumerate the means it has adopted to govern its own body; but for the benefit of those who were not at the meeting at Port Huron it may be well to state that the National Association submitted to the State Asso-

ciations a common plan of organization, which in substance urged the formation of the county societies, and placed the management of the affairs of the State Society in the hands of delegates elected pro rata by the county societies. Early during his presidential term, Dr. Connor appointed a committee on reorganization, consisting of Drs. A. E. Bulson, George Dock, and Charles T. McClintock, to consider the subject, and these members, after making changes to conform to our needs, submitted the proposed constitution and by-laws for the consideration of the Society. The spirit of organization was, however, already abroad and in this spirit, animated by the able address of the President and fascinated by the genial presence of that gentleman of Kentucky,

Dr. J. N. McCormack, of Bowling Green, the chairman of the committee on organization of the American Medical Association, it unanimously adopted the constitution and by-laws; wisely, however, continuing its committee on reorganization and instructing it to revise the same, its revisions to have the force of immediate effect. Realizing that this work has just begun, the Society elected as its President the chairman of the committee, Dr. A. E. Bulson, of Jackson.

And from every other point the meeting was a success. The papers, discussions and general interest compare favorably with other years and never has there been recorded a greater attendance.

Detroit was chosen as the next place of meeting, and the date has been fixed at June 11 and 12, 1903.

THE JOURNAL.

It is not necessary to enumerate the many advantages of a monthly journal over the annual transactions for a place of record of the doings of the Society. One of the principal ones, however, will be the opportunity it affords to the officers of the Society to come into more intimate and frequent touch with the members, and to the members to present their views, for we wish it understood that we invite to its columns all honestly expressed criticisms. THE JOURNAL is the official organ of the State and County Societies, and we expect soon to have it the record place for the proceedings of the component societies. We invite correspondence on any matter of common interest.

The annual dues cover the subscription to THE JOURNAL.

We enter the field of journalism simply as a better ground to plant the seeds of

common interests and to reap the benefit of closer acquaintance. We enter with no feeling of rivalry nor competition, and to those journals already here, which have in the past graciously recorded the doings of the Society, we express our sincere wishes for their continued success.

THE REVISION OF THE CONSTITUTION AND BY-LAWS.

Well realizing that, while the constitution and by-laws adopted at the Port Huron meeting formed a good working basis and offered encouragement to the officers of the Society to continue their work for the organization of the medical profession of the State, they must contain many features which might be improved upon, the Society wisely empowered the committee on reorganization to revise the same as it deemed best, such revisions to form part of the constitution and by-laws and to have immediate effect. Many changes have been made, the ones to meet probably with popular approval being the reduction of the annual dues to \$2.00, payable through the county society, and the election of the president by the society as a whole. Other changes are made to insure a better business management of its affairs. The finances and the conduct of THE JOURNAL are placed in the hands of the Council, practically a permanent body. Being responsible for their work, the selection of the secretary and the treasurer is also placed in its hands.

THE COUNCIL.

By the new order of things, the Society entrusts the work of organization throughout the State in the hands of twelve councilors, one from each Congres-

sional District. These members, carefully selected by a special committee, have entered upon their work with an enthusiasm and an earnestness which promise well for the success of their labors. On July 10th the Council met with the other officers of the Society in Detroit, organized and outlined the work of the year. It elected as its chairman the retiring president, Dr. Leartus Connor, to whom more than to any one else belongs the credit of putting into working force the new order of things; and as its secretary, Dr. W. H. Haughey, of Battle Creek, another enthusiastic, indefatigable worker.

Two councilors are elected every year to serve for six years. To these men is given all power and to them will be the credit of success. To the individual councilor is given the supervision of his own district, and to him must the County Society apply for instruction. That the Society may have the benefit of the work and the counsel of all its officers, the vice-presidents will aid the councilors in their duties.

THE COUNTY SOCIETIES.

The primary object of the organization of the medical profession of the United States is to get every practitioner of medicine in good standing interested in medical matters. It is believed that the best way to do this is to go into every county and to organize there a society which must be within reaching distance of every practitioner, and so the county society becomes the center of interest, and as rapidly as it can be done one will be organized in every county where there are a sufficient number of physicians.

A county society, when chartered, becomes a component part of the State So-

ciety and is directly interested in the State and every other county society.

The primary steps for the formation of these societies have already been made.

On August 8th Calhoun County was granted a charter, the first to be issued by the State Society.

As but one county society can be chartered in each county, the physicians of Wayne County met in Detroit on July 25th, under a call of a joint meeting of the Detroit Medical Society and the Wayne County Medical Society. Here the members of the societies listened to the remarks of the President of the State Society, Dr. Bulson, and to an able address on organization by Dr. P. Maxwell Foshay, of Cleveland, a member of the committee on organization of the American Medical Association. After some other remarks the Detroit Medical Society graciously yielded to the Wayne County Medical Society. The latter has already taken into its membership all the members in good standing of the Detroit Medical Society, has amended its constitution and by-laws to meet the requirements of its new relationship to the State Society, and has been granted a charter. Wayne County presents to the State Society a united profession. May the other counties quickly do likewise!

Many county societies have been in affiliation with the State Society for a number of years. In most of these the annual meeting will take place during the month of September or October, a meeting which is usually well attended. It is urged upon the officers of these societies to make a special effort to secure as large an attendance as possible, to explain to the members the plan of organization, and to amend their constitution and by-laws to meet the requirements of the State Society. These

requirements in no way interfere with the fundamental principles of organization, but simply bring the county society into closer relationship with the State and facilitate the transaction of business. That the county societies may adopt a uniform plan, the committee on organization of the American Medical Association submitted a constitution and by-laws for their consideration. (See *Journal of the A. M. A.*, August 9, 1902, page 315.)

MEMBERSHIP.

It is now probably well understood that membership in his county society entitles one to membership in his State Society and in the American Medical Association, and that no one can be a member of the National Association unless he be a member of his State Society, or a member of the latter unless he be a member of his county society. It is, therefore, sincerely urged upon every member to extend every aid to the councilor of his district in the formation of the county societies.

The annual dues of the State and County Societies are paid to the County Society, and to the latter the State Society looks for its assessment.

THE PRESIDENT'S ADDRESS.

Dr. Connor's address, which will appear in the first two issues of THE JOURNAL, is well worth the careful perusal of every physician in Michigan. Its consideration of the early history of the medical profession of the State is interesting and instructive. Its clear exponent of the needs of the Society paved the way for the adoption of the constitution and by-laws at the Port Huron meeting.

Communications

Battle Creek, Mich., Aug. 25, 1902.

The Editor:—

Permit me through the columns of THE JOURNAL to call attention of the profession to a means by which the members can materially aid the work of organization.

If every doctor in Michigan, in the counties in which organizations do not already exist, will constitute himself into a committee of one to organize a society in his county and to correspond with the Councilor of his District, who is in a position to give him valuable instructions, it will materially aid the Councilor in his work. Each Councilor District embraces several counties and it is manifestly impossible for the Councilor to visit each individual doctor of the District; but, if the doctors will correspond with the Councilors and acquaint them with the local needs and conditions, the Councilors can act intelligently and expeditiously.

When meetings are called to which Councilors are invited, it is the plain duty of all medical men nearby to attend the meeting. Lend aid by your presence. Encourage your Councilor that much.

Let us organize and occupy the honorable position in the minds of men that our professional attainments entitle us to. This can be best and most quickly accomplished by corresponding with your Councilor and with each other, calling meetings and organizing. Let us all work together.

I have sent out the following circular to the members of my District, which I submit as a suggestion to the other Councilors:

"As you are aware, the Michigan State Medical Society at its recent meeting at Port Huron adopted a plan of reorganization along lines mapped out by the American Medical Association, and elected a Board of Councilors to carry on the work.

"At a subsequent meeting of the Board of Councilors, held in Detroit, July 10th last, it was decided that membership in the county society carries with it membership in the State Society, the dues for which are \$2.00 per year in addition to dues to the county society, and secures for its members THE JOURNAL of the Michigan State Medical Society, issued monthly, also eligibility to membership in the American Medical Association. State dues to be paid to the Secretary of the County Society.

"To more thoroughly explain the above-named plan in all its features, the Councilor for your District, the President and Secretary of the State Society, together with several other prominent members of the profession in Michigan, will be at the courthouse in..... at 1:30 P. M..... 1902, when they hope to meet all the eligible medical gentlemen of..... County with a view of establishing, or reorganizing if already established, a County Medical Society in affiliation with the State Medical Society.

"You are earnestly requested to be present at this meeting, as matters of great importance to the profession will be discussed and fully explained."

W. H. HAUGHEY, M. D.,
Councilor for the Third District and
Secretary of Council.

The next Annual Meeting of the Michigan State Medical Society will
be held in Detroit, June 11th and 12th, 1903

The Journal of the Michigan State Medical Society

The Official Organ of the State and County Societies of Michigan

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Original Articles

PRESIDENT'S ADDRESS.

THE MICHIGAN MEDICAL SO- CIETY.

It's First Eighty-three Years—Present
Wants, and Suggestions for their
Supply.*

LEARTUS CONNOR,
Detroit, Mich.

PART II.

The second stage in the evolution of the Michigan Medical Society started with a meeting held at Ann Arbor, March 30th, 1853, and ended with an aborted meeting at the same place March 29th, 1860. The abolition of all medical laws by the Legislature in 1851 threw the profession of the State upon its own resources. Feeling the need of some sort of organization for mutual aid, inspired by a desire to assist the young Medical Department of the Uni-

versity (started in 1849); catching something of the enthusiasm of the young editor of the first *Michigan Medical Journal*, Dr. Edmund Andrews, the profession organized after the fashion of the conventions of that time.

New wants had come to the profession, and it planned for their supply. By its medical college it had entered upon a systematic training of its future members. By its medical journal it sought to stimulate the older men to larger observation, more frequent record of their work, and the encouragement of local medical societies.

Happily, the editor of the *Peninsular Medical Journal* was chosen Secretary, and continued such till his removal to Chicago three years later. He was also demonstrator of anatomy in the medical school, and instructor in comparative anatomy. A man of exceptional ability, clear in thought, clean in life, a marked man among kings, he started the enterprises well.

*Read at the Meeting of the Michigan State Medical Society, held at Port Huron, June 26 and 27, 1902

Of the scholarly ability, the indefatigable industry and upright life of his successor, Dr. E. P. Christian, late of Wyandotte, all who knew him will speak in exalted terms. As Secretary he faithfully served the Society till, amid the financial earthquake of '59 and the ominous rumbling of the approaching storm of the great Rebellion, it closed its doors.

Its Presidents were all men of mark—in order as follows:

George Landon, of Monroe;
Henry Taylor, of Mt. Clemens;
Zina Pitcher, of Detroit;
J. H. Beach, of Coldwater;
N. D. Stebbins, of Detroit;
J. Adams Allen, of Kalamazoo;
H. B. Shank, of Lansing.

Its eighth annual meeting was called at Coldwater, January 18, 1860, but, so few being present, it adjourned to Ann Arbor, March 29th, when, discouraged by the few present, it disbanded. Its total membership was 115, and its work admirable, worthy of the State at that time. The presidential addresses were thoughtful, forceful, discussion of topics pertinent to professional interests. So far as records show, a singular unanimity prevailed—the more surprising because of the heated contests of both former and later years.

Its papers covered a wide range of topics; especially rich were they in observations upon the meteorology and health of the several localities—topics now covered by health and sanitary boards. It originated movements which finally resulted in the proper care of the insane in institutions owned and conducted by the State instead of by counties; movements for the proper registration of deaths, births and marriages; for State and local health boards; for an anatomical law so

that an inquiring medical student might study human anatomy without running the risk of being mulct of two thousand dollars or spending two years in a cell with a midnight assassin.

Among the obvious causes of its downfall were:

1. The commercial disasters of 1857;
2. The growlings of the approaching civil war;
3. The natural operation of the feuds of former years;
4. The lack of stimulus from opposition;
5. Last, but not least, the absence of the sustaining interest of many local societies.

From the fact that the Society breathed its last at Ann Arbor it would seem that the Medical Department and its friends were not anxious to prolong its life.

The *Peninsular Journal* had struggled in conflict with its rival, the *Independent*, and finally combined with it and then dying—all of which must have been depressing.

While the election of Dr. Pitcher to the Presidency of the American Medical Association, at its first Detroit meeting in 1856, gratified his friends, it rendered his enemies the more bitter and so failed to advance the State Society.

During these seven years the profession learned to conduct a medical society without State support. ('Tis interesting to note that the report of its last meeting was published at State expense, doubtless because so many members were common to both Society and Legislature, and interested in pushing certain matters in each, as the completion of the Kalamazoo Asylum.) As a leader in these bodies was Dr. Foster Pratt, who for many years served the medical profession with marked

ability in all its notable movements. He was one of the ninety thousand men sent by Michigan to defend the Nation's life. With him went a host of doctors whose written and unwritten work show that this Society failed not its country in time of peril.

The third period in the evolution of the Michigan Medical Society began with 1866, and now at the end of thirty-six years is incomplete. Many of its founders are still with us to give the boys pointers along the line of medical and surgical work. We need their mature judgment and wise counsel in solving the problems of reorganization before us.

During these thirty-six years our records show 1,478 members admitted, 868 removed, resigned or died, leaving a net result of about 610.*

Among the conditions favoring the formation of this Society we note: (1) The closing of the civil war left many energetic, wide-awake young doctors in Detroit without adequate clientele—through a medical society they saw a chance. (2) Efforts to remove the Medical Department of the University to Detroit, though long continued, had failed, while they advertised the waste of clinical material. (3) Clinical instruction as the leading feature of the coming medical education was everywhere emphasized.

With such conditions it is easy to see that personal ambition and economic thrift urged the establishment of a medical college in Michigan's commercial metropolis. After the example of the founders of the University Medical School, the promoters of the enterprise began with a medical journal, the *Detroit Review of Medicine*

and *Pharmacy*; then followed, the same summer, the Michigan Medical Society, and, lastly, in 1868, the Detroit Medical College.

Naturally, the Medical Department of the University exerted itself to retain and increase its hold upon the profession, and so its friends took active part in the Society. To offset the *Review of Medicine*, the *University Medical Journal* came into life. Through these, and other, agencies, friendly contests waged in and about the Michigan Medical Society, making it a lively affair till, by processes of evolution, both were fully occupied in other directions, when both the *Review* and *University Medical Journal* disappeared, as in any sense exponents of the separate medical schools. All parties had need of the Michigan Medical Society, hence its increase in size and influence.

Meantime the methods of the old time political convention, with its parliamentary contests; its personalities; its oratorical play to the galleries, became inadequate. After much discussion, in 1887, its scientific work was separated from the legislative, executive and judicial, and done in three sections, under the guidance of separate chairmen and secretaries. Thus more time was had for papers and fuller discussions, as the published transactions abundantly demonstrate. Further, this change multiplied offices, and so to a greater degree appeased the hunger for such diet. As scientific discussion rarely induces loss of temper, the sections disposed of much surplus energy in a peaceful manner.

Of the Presidents, eighteen are dead and seventeen living—one, Dr. J. H. Jerome, was elected twice, in 1867 and 1881—doubtless presidential timber was scarce in '81, as during the first period

*Adding the membership of the three periods we have total of 1,656 for 83 years.

when Dr. Zina Pitcher was fourteen times President.

Of Secretaries we have had four: Dr. George E. Ranney for the first twenty years, then in order, Drs. George Duffield four years, C. W. Hitchcock six years, Collins H. Johnston four years, and A. P. Biddle two years; the first a soldier in the civil war, the last in the Cuban war.

During its first period the Michigan Medical Society limited itself largely to the execution of State laws regulating the practice of medicine, doing little to develop its members along scientific or literary lines, or to foster, encourage or develop county societies.

Its second period stimulated members to observe, record and publish facts relative to local climate, epidemic diseases, public health, as well as those relating to private practice. It strongly insisted upon the observance of the code of ethics, American Medical Association; it encouraged the *Peninsular Medical Journal*; it urged the Medical Department, University of Michigan, to a higher preliminary requirement and better professional training; but it remained a large local society, doing nothing to foster, encourage or develop local medical societies.

Its third period began with an impulse to utilize the clinical advantages of Detroit, but it promoted the development of State Insane Asylums in lieu of the wretched county lazzar houses for the herding of the insane; it initiated the movements that led to the formation of proper state and local health boards, proper registration of deaths, births and marriages; some sort of restriction of free trade in medical practice, to those competent for the work; and numerous other enterprises having for their object the application of the latest scientific knowledge to

the betterment of the physical lives of our citizens.

Its jealousy for membership at once competent and clean drew it into a controversy relative to the educating of homeopathic students by the regular faculty of the University. While it had no legal penalties with which to enforce its ideas, a simple disapproval of the proposed scheme brought upon its head a veritable storm of thunder and lightning compared with which the terrors of Mount Sinai was a summer breeze. The final result was the establishment of a sectarian medical school entirely distinct, so that it cannot be said that our own school gives aid and comfort to such as seek to make the world believe "a part equals the whole."

These and allied activities are at once the index of virile force in the Michigan Medical Society and a stimulus to its further development.

Papers and discussions were greatly multiplied by the sections, thus attracting more scholarly persons and raising its scientific standard. During both periods it was a voluntary association, differing from local societies by drawing from a larger field, holding less frequent but longer sessions, and giving aid and comfort to those disgruntled with the local society or unwilling to co-operate therewith.

In spite of the stimulus of the most remarkable period in all medical history, our growth in numbers from 100 to 610 during thirty-six years has been disappointing. It is especially discouraging that members drop out, by failure to pay dues or because they find the Society unprofitable. Alabama, with but 1,700 physicians, has 1,200 in the State Association. Baldwin County, 125 miles long, in which are but nine physicians, eight belong to the County Society.

The present wants of the Michigan Medical Society are three:

First—A membership of three thousand, and provision for keeping pace with increasing population.

Second—Sixty County Medical Societies, instead of fifteen, with plans for increase to the limit.

Third—A force adequate to the growing of a live medical society in each district, and bringing each doctor of that district into active fellowship therewith.

How shall these wants be supplied?

Time forbids a complete answer, were data available; to aid each in formulating such answer, we present the following suggestions:

1. Work, tactful, persistent, by intelligent representative persons, is absolutely essential. To secure these the Society must be divided into Councilors, Delegates and Members; the first attending to the business, the second to the scientific work; thus we ensure a small body of representative men for planning details and supervising their execution.

2. The Society will avoid all political entanglements because it has learned that they develop antagonisms from the "outs," enervate the "ins," or reduce both to the level of the lowest. Far better retain the method of our past two periods and relegate to special boards all police duties in regulating the practice of medicine—said boards representing the several sects patronized by the people. We may do much to secure the best individuals on the boards and compel their obedience to the law. Such independent position will enable us to lead in all movements for the application of science to the common good, and have our leadership recognized.

3. For fifty years the Michigan Medical Society has been weak, in an organiza-

tion, so compacted that when one suffers all suffer; when one prospers all prosper. Since such can spring only from correct sociological principles, and be perpetuated by their continuance, education is our watch-word. This must be persistently continued along three lines: A—The perfecting ourselves in professional ability; B—mastering the best methods of co-operating for common aims (Medical Sociology); C—teaching the laity how to apply scientific knowledge for their advantage.

Our past shows prosperity as one or all of these have been employed. Before 1851 the Society published nothing, and so its educational power was at a minimum—its opponents published much, to our disadvantage. From 1851 to 1870 the Society utilized the medical journals. Since 1870 it has issued yearly volumes. Both methods of educating promoted our work, increased enthusiasm, and raised our standing.

We have augmented our knowledge, educated and gained influence with the laity by efforts to establish and maintain boards of health; registration of vital statistics; regulation of the practice of medicine; to secure the proper care of the insane, deaf, dumb; to establish and maintain hospitals, dispensaries; to obtain such school buildings as would better fit them to train young children to sound citizenship; to teach the correct principles of drainage, sewerage, water supply, plumbing, heating, etc. For this purpose we have used the lay press as well as medical and other scientific journals.

Just now the question presents: Cannot we increase our educational power by changing our official form of publication?

New York and Illinois tell us in emphatic phrase, supported by facts and

figures, that their state society medical journals have increased their incomes, multiplied their membership, and augmented their enthusiasm, far beyond their wildest dreams. May not this modern method serve us equally well?

It is suggested that this meeting, by specific resolution, direct the Publication Committee to issue the transactions in the form of a monthly journal, to be known as *THE JOURNAL OF THE MICHIGAN MEDICAL SOCIETY*. To aid this committee it is suggested that four members be appointed till their successors be elected. To this Board of Publication, all matters relating to the expenditure of money shall be referred, without debate, and on it shall be placed all responsibility for the *JOURNAL* management. It shall organize immediately after appointment, hold at least one meeting, and submit an annual report of its acts.

4. Inquiry respecting the early death of many local societies reveals the conviction that the cause was "too big a dose of unworthy members." Possibly wise missionary work might have saved both individuals and society. Our predecessors paid much attention to membership, and we reap the reward. We may not license to practice, but we can assure in our members fitness for work much higher than that exacted by a legal examining board; one toward which the latter may aim, and thus insure, for the future, doctors better than ourselves—a course promotive of the highest good of this Society.

5. It is suggested that this meeting appoint a Councilor from each Congressional District, who shall hold office for six years or till his successor be elected, so arranging the terms that two shall be elected yearly thereafter. Their duty shall be the promotion of new county societies,

reviving old ones, and adjusting misunderstandings. The expense of this work shall be paid by this Society, to the limit of \$25 yearly to each Councilor. The Councilors shall organize immediately after appointment, hold at least one meeting, and submit to this Society an annual report.

6. It is suggested that each Vice-President, by resolution, be directed to place himself in connection with the Councilors of the three Congressional Districts nearest his residence, so as to render all possible aid in the work of promoting the formation, development and healthful activity of local medical societies within his territory.

7. More than eighty years ago this Society arranged a reciprocity with other State societies having standards equal with ours, so that individuals on removing to such State were accepted by its society, and its members on removing to ours were accepted by us, so avoiding the annoyance of re-election. If re-enacted, this reciprocity in State society membership would enhance our membership value and encourage the maintenance of good standing therein. A bank note current at face value in forty States is more desirable than one current in one State.

8. Never has this Society made special effort to retain till death, members of long standing and faithful service. One by one each becomes incapacitated for active effort. Why not form a Roll of Honorary Members, with full privileges but without dues? Scant knowledge of men is required to know that these veterans would, most efficiently, promote enlistment of their young medical friends, and their love for this Society grow stronger as they neared their eternal home. It is suggested that the Committee on Re-organi-

zation define the limitations needful to make and keep this a roll of honor, and select the names of those now eligible, and that additions hereafter be yearly presented by the Committee on Nominations, the Society electing them as other members.

Lastly, for eighty-three years the Michigan Medical Society has kept step with the onward march of medical progress. It remains to gather wisdom from our past, from our sister state societies, from the American Medical Association, and medical sociology and use it as a guide to enlist the cordial co-operation of every physician in making the Michigan Medical Society worthy of its magnificent domain, its glorious past, and our universal brotherhood.

THE VALUE OF THE EXAMINATION OF THE BLOOD TO THE GENERAL PRACTITIONER.*

W. K. WEST,
Calumet, Mich.

If credit belongs to one factor more than another for the marked progress in the science of medicine during the past quarter of a century it undoubtedly is due to laboratory workers, as from their study and work has come a better understanding of the etiology of pathological conditions; making possible a more correct and rational treatment, greater therapeutic accuracy, and a more definite knowledge of the course of disease processes. The microscopical examination of the sections for signs of malignancy, of sputa for the tubercle bacilli or elastic tissue, cultures taken from the throat and their examina-

tion to differentiate diphtheria and tonsillitis, of pus and secretions to determine the exact infecting germ, the examination of the stomach contents both microscopically and chemically for evidence that will support or disprove clinical symptoms, the use of the microscope in the study of lesions of the skin, and more recently the examination of the blood, all demonstrate the value of laboratory investigations and their clinical application in diagnosis. Success in the practice of medicine, from a scientific standpoint, requires a knowledge of these modern methods. In surgery, earlier operative intervention made possible by a prompter diagnosis, has resulted in greater lessening of suffering and saving of life, and in internal medicine the element of doubt may often be removed, proper treatment adopted, and a more correct prognosis given. The physician with a conscientious regard for his patient's welfare should recognize the duty devolving upon him; and with a recognition of the great value of these methods, apply them in the management of his cases. As a result of a familiarity with them, greater responsibility rests upon him and an incorrect diagnosis is the more reprehensible. The methods of dealing with morbid states have so changed in the past few years, having become more accurate and exact through the recent aids to diagnosis, that the doctor must constantly advance and adopt new ideas as they are proven to be of value.

To hold the confidence of the public and retain his standing in the profession, he must be inspired by the teachings of today and not those of twenty-five or even ten years back. Modern methods do not imply less thoroughness or painstaking care in the bedside examination of the pa-

*Oration on Medicine, Annual Meeting, Port Huron, Mich., June 26, 1902.

tient and study of the case; nor less skill exercised in the detection of pathological lesions; but in addition to the physical examination, these newer methods are potent aids, supplementing other means and in many cases absolutely essential to making a correct diagnosis, and without whose aid many cases must perforce be treated blindly.

Even with the most experienced clinicians the diagnosis often remains in doubt and the course of the disease not thoroughly understood; and any means that will assist in dispelling the doubt should be understood and tried. To the older practitioner particularly are these methods of greater value; and he will the more correctly interpret the clinical symptoms, and the results of laboratory examinations, and be less easily misled. In the study of pathological conditions, their etiology, course and treatment, haematology, the study of the blood, now occupies a very prominent and important position, and there has been such a vast amount of study and research done in this branch of medicine that its practical utility can no longer be questioned. Neither is it a fad of a few enthusiasts limited to laboratory work with no bed-side experience; and though there remains much to be learned in its clinical application, the examination of the blood has already been demonstrated as a rational scientific procedure of great value. It has been shown by a study of the blood in certain diseases that deviations from the normal so constantly occur as to be considered pathognomonic. The importance of blood examination to the physician and surgeon has become a recognized fact, and the many articles on the subject during the past year are significant.

An increasing number of physicians each year include the examination of the blood in their methods of diagnosis, but there remains a very large majority, particularly among the general practitioners, to whom it should be of the greatest importance, who do not make use of it. In our own State it is no exaggeration to say that fully ninety per cent. do no blood work themselves nor do they have it done for them.

Through a correspondence with a large number of physicians I learned that less than ten per cent. made even the simpler or more common examinations; those which by experience they would find invaluable and the technique of which could be readily acquired. With this apparent apathy or disregard of a valuable and essential diagnostic method a consideration of the subject at this meeting is both timely and important.

Until very recently students have been graduated from most of the medical colleges with little or no training in this work. Due importance has not been given it by their teachers and they begin the practice of medicine with scant knowledge concerning it, less familiarity with its technique, and far too little appreciation of its worth. It is not right that men should enter the practice of medicine handicapped by inefficient training in any important aid to diagnosis. It lessens the possibility of their success and lowers the standing of the profession. The argument that urgent cases permit of no time for the examination of the blood shows that a misconception exists regarding the time which such an examination requires. The busy country doctor with a large practice and long drives feels that his day's work is already crowded; but if he would make it his habit to carry with him,

as he does a thermometer or hypodermic syringe, the blood counters and a few cover glasses, occupying but little space, it would not often become necessary for him to make a special trip to examine the blood; and the benefit accruing to him in the management of his cases would in the long run be time saved. But a few seconds are required at the bedside to prick the finger, draw the blood into the pipette and dilute with the proper solution. On returning to his office the corpuscles can, with but little practice, be counted in ten or fifteen minutes, while the more expert need but a third of that time. The device of Tallquist for estimating haemoglobin can easily be carried in an inside coat pocket and makes the bedside determination of the percentage of haemoglobin both simple and practical. By having a few cover glasses in the pocket a blood spread may easily be made and readily carried, when dried, to be stained later. In malarial localities where the diagnosis of so common a disease can promptly be made by examining the blood this is of greater importance. Counting the white and red corpuscles, estimating the haemoglobin, and examining the stained specimen are always available; while in office practice may be added the examination of the fresh drop.

Recent editions on Haematology by American authors show an exhaustive amount of study and work, and make clear the technique and its clinical significance. There is no reason why every doctor cannot qualify himself to examine the blood, and the importance of these examinations to him no longer admits of argument. The reasons of its greater value to the general practitioner are obvious, as it is his privilege and good fortune to be called in attendance upon the sick at the

onset of morbid conditions, when the efficacy of therapeutic measures are more pronounced and the extension of the lesion more promptly checked or its course greatly modified. Impelled by a conscientious regard for the welfare of his patients, the physician should be able to adopt all means that may assist in the making of an early definite diagnosis. An examination of the blood may often be the only means of determining the true condition; and by it the course of the disease better understood, dangerous complications earlier recognized and the results of treatment more accurately known. It is a not infrequent experience for the diagnosis to remain several days in doubt, notwithstanding a thorough painstaking physical examination has been made; and in just such cases, with conflicting clinical signs, will a blood examination often clear the horizon and be of inestimable value. The examination of a patient can no longer be considered thorough or complete that leaves out the examination of the blood.

Our judgment regarding the presence or absence of anaemia or its severity will often mislead us if the clinical signs and appearance of a patient are the only means of forming an opinion. Estimation of haemoglobin, the blood count and examination of the stained preparations make possible greater certainty and accuracy in diagnosis; and the differentiation of the different forms of anaemia from each other, or from other conditions accompanied by marked changes in the blood is only possible by this means. Severe anaemia has often gone unrecognized by experienced clinicians until the blood has been examined. Though in most cases of simple anaemia or chlorosis the diagnosis may be made in the usual way, the con-

firmatory evidence of the blood examination is of value and makes possible a knowledge of the exact degree. Frequent examinations will show the effect on the blood of medication and give us accurate information of the progress of the case. In pernicious anaemia a definite diagnosis is impossible without the blood examination. Cabot states that it may be indistinguishable from chlorosis or from secondary anaemia due to carcinoma. He reports such a case where the diagnosis of pernicious anaemia had been made; a lemon yellow color of the skin had been gradually acquired without assignable cause, loss of flesh, vomiting, pain or any localized symptom. His examination of the blood showed that it was not pernicious anaemia, but that the anaemia was evidently secondary; which was confirmed ten months later by the autopsy showing cancer of the stomach present. "The pallor of chlorosis and pernicious anaemia," he says, "is not always different either in degree or kind, and the symptoms and physical signs may be identical." His reference to four cases diagnosed as leukaemia, which an examination of a stained preparation of the blood proved to be incorrect, and later were shown to be malignant tumors of the kidney, is also evidence of the necessity of these examinations. The correct diagnosis of any of these diseases requires a careful and thorough examination of the blood; and failing to do it is unscientific, inaccurate, and slipshod. It has been recently observed that counting the red corpuscles and estimating the haemoglobin will differentiate chlorosis from exophthalmic goitre.

There is no disease which gives rise to more mistakes in diagnosis nor which may be earlier recognized than malaria. Laveran's discovery of a parasite in the

blood associated with the symptoms of malaria, and the demonstration of its etiological relation to that disease marks an epoch in medicine. In the examination of the blood its detection makes a diagnosis certain and it should be looked for in all cases where the clinical symptoms suggest malaria, and in malarial sections the blood should always be examined where there is any doubt regarding the nature of the disease. Aside from the presence of the parasite making the diagnosis certain, the changes in the leucocytes are of value; which in all uncomplicated cases show a marked decrease. Thayer states in his monograph that "the presence of an appreciable leucocytosis is strong evidence against the existence of uncomplicated malaria." It has been also shown that with this decrease in the leucocytes there are certain constant qualitative changes; the large mononuclears being relatively increased while the polymorphonuclear neutrophils and small lymphocytes are decreased. These changes are unaffected by the action of quinine.

Yet with this simple means for a positive diagnosis at hand there is to-day no term more loosely used by the general practitioner than malaria, and it is not uncommon for diseases more or less resembling it to be treated for weeks with an incorrect diagnosis, and the physician often in doubt, yet making no effort to examine the blood. The experience of our surgeons during the recent war with Spain showed how frequently a mistaken diagnosis could be made without an examination of the blood. In the official report on the origin and spread of typhoid fever during the way of 1898, by Drs. Reed, Vaughan and Shakespeare, it is stated "that most cases of typhoid fever improperly diagnosed were sent to the general

military or civil hospitals with a diagnosis of malaria; and in 80 out of 85 cases sent to civil hospitals in Baltimore the diagnosis was changed from malaria to typhoid fever." They also state that they do not believe that the mistakes were more common than by physicians throughout the land. There is certainly no more forcible argument than this experience of our army surgeons, for the examination of the blood in all cases where malaria is possible or suspected.

Typhoid fever is another example of the importance of blood examination, both in differentiating it from malaria, as already referred to, and from other diseases which may simulate it. Influenza, meningitis, military tuberculosis, central pneumonia, and appendicitis have all been difficult to distinguish from typhoid fever in the early stages, when by the clinical symptoms alone a positive diagnosis may be impossible to make. The study of the blood will assist both by the Widal test and the leucocyte count. The clinical value of the serum test was first demonstrated by Widal in 1896 and has been found reliable in fully 95 per cent. of all cases of typhoid fever. Not being present, however, until the end of the first week and in some cases even later, it can be of no assistance in the first few days, when a correct diagnosis may be of the greatest importance. At this time, however, the leucocyte count will positively distinguish it from most cases of appendicitis, non-tubercular meningitis or pneumonia. The element of doubt so often referred to in distinguishing appendicitis from typhoid fever need not exist when the blood count is used, as in the very large majority of cases there is a marked leucocytosis, while in typhoid fever the leucocytes are seldom increased at the onset, and decrease dur-

ing the course of the fever. In those cases with exaggerated cerebral symptoms during the first week, it may be difficult to rule out meningitis by the clinical symptoms alone; but the absence of leucocytosis will make the presence of the latter disease improbable. This value of the blood count is shown by a case I saw in consultation last winter. The patient, a young man, had been taken suddenly sick the previous day, and when first seen by his physician had a temperature of 105 degrees, rapid pulse, intense headache, periods of marked delirium, followed by a semi-comatose state. The heart and lungs were negative and no evidence of abdominal lesion. The possibility of so serious a disease as meningitis could only be ruled out by the blood count, which in this case showed a normal number of leucocytes. The eruption at the usual time, of small-pox, made the diagnosis clear. There were only two cases of this disease in the city at the time, over a mile from his home, and no history of exposure on his part, as far as could be learned. The examination of the blood may be of great value in the management of typhoid fever and the prompt recognition of serious complications made more certain. The increase in the leucocytes will, in connection with other symptoms, assist in the early diagnosis of a perforating ulcer or the presence of pneumonia or appendicitis. This is illustrated by a case we had under our care two years ago in which appendicitis developed during the second week of typhoid fever, and the examination of the blood made its recognition more certain. The development of severe pain and increased tenderness in the region of the appendix led us to suspect appendicitis; particularly as this aggravation in the symptoms was accompanied by a marked leu-

cocytosis. An operation was immediately determined upon, and there was found a thickened inflamed appendix containing a small piece of lead. The patient made an uninterrupted recovery from the operation, and the typhoid fever pursued its usual course. The presence of other cases of typhoid fever in the same household, and in this case the rose spots and a positive Widal had made the diagnosis of typhoid fever certain and the increase in leucocytes at this time had simplified the recognition of a complicating appendicitis.

The importance of the blood count in appendicitis both in diagnosis, but more particularly in prognosis, is now, I believe, a well established fact. While it is true that the more acute cases can as a rule be recognized by the local signs alone, it is equally true that in these cases where the symptoms are not as marked, a clear, definite diagnosis is often one of the most difficult to establish. And even with the diagnosis made, the extent of the inflammatory process cannot be accurately determined, as the local signs may often be misleading or wrongly interpreted. In connection with the other symptoms, the leucocyte changes may be a valuable factor in reaching a correct conclusion relative to the existing conditions, and have often been found the only indication of danger. So true and important is this fact that a blood count should be made at frequent intervals in all cases where a positive diagnosis cannot at once be made, or for any reason an operation may have to be deferred. Each additional experience has shown that the local signs, pain, tenderness, and muscular rigidity are not infallible guides; and this fact has been demonstrated repeatedly by operations done on the showing of the blood count alone. The reports of such cases by a number of

competent observers have made it evident that the information gained from the blood count, and the management of the case according to its showings have been the means of saving many lives. As an illustration of how serious an inflammation in and about the appendix may exist and yet be unrecognized by the local signs, is the case reported in detail in the *Medical Record* of March 29th, 1902, by Dr. Evans of New York City. Associated with him in the management of the case were some of the ablest physicians and surgeons of that city; yet no diagnosis was made. Dr. Evans summarizes as follows: "This patient was sick five days. Every 24 hours marked a decided advance in the pulse and toxæmia; the pulse increasing about 20 to 30 each day. The temperature remained practically negative from the fourth day after beginning of first symptoms until 30 hours before death; and there was not a cardinal symptom of appendicitis or peritonitis at any time." At the autopsy diagnosis of gangrenous appendicitis was made, with localized incipient gangrene of the small intestine. The lumen of the appendix was distended with a thin dark colored pus.

It is not possible for the general practitioner with a comparatively limited experience in the diagnosis of appendicitis to as clearly distinguish the signs present, as the surgeon with an experience reaching into the thousands, both at the bedside and operating table; and to him particularly will the blood count be of inestimable value.

In pneumonia the increase of leucocytes may be of great value in leading to an early diagnosis, when by the absence of definite local signs, as in those of central origin, it cannot clearly be defined. Nearly all cases are accompanied by a

marked leucocytosis, which has been shown to occur coincident with or soon following the initial chill and continuing until the crisis. The only exceptions to this rule are the very mild attacks, or the extremely grave ones accompanied by an overpowering toxæmia and lack of resistance on the part of the system. By means of the blood count a more positive prognosis can be given. A severe attack, as shown by the usual symptoms, is of greater gravity if it be accompanied by slight or no leucocytosis; and the presence of eosinophiles, which do not return to the peripheral circulation until the acme of the disease has been passed, may be the first indication of a favorable termination, several hours or longer before any subsidence in other symptoms. Cabot has repeatedly seen the diagnosis of pneumonia made in the absence of physical signs; and largely on the evidence of the blood count; the diagnosis being confirmed several days later by the appearance of typical signs of consolidation. He refers to a case of Dr. Shattuck: "Sick 5 days, yet showing no signs of consolidation of the lungs. The presence of a marked leucocytosis excluded typhoid fever, the only other likely diagnosis, and led him to treat the case as pneumonia, the wisdom of which was later demonstrated by the appearance of signs of consolidation."

It is not necessary that the busy practitioner attempt to become an expert in the examination of the blood, but he can and should acquire sufficient skill in the methods most often required, and in doing that much he will become more and more convinced of the practical benefit of it to him. He must familiarize himself with the microscopical appearance of normal blood to correctly interpret pathological changes. The necessary technique in the prepara-

tion and counting of the blood corpuscles demands absolute accuracy for correct deductions. Pathological must be distinguished from normal leucocytosis and the action of digestion and exercise in the cause of the latter understood. The normal puerperal state is accompanied by leucocytosis which may interfere with the use of the blood count in pathological conditions for a few days following labor. Chloroform and ether anesthesia both produce an increase in the leucocytes, as also does the subcutaneous injection of normal salt solution and the administration of certain drugs. Any of these causes may have to be eliminated in arriving at conclusions, but when considered, need not interfere with the practical application of the principle. What the physician needs to recognize is that there are certain definite blood changes to be found in many pathological conditions and that there is great practical benefit in their clinical application. To aim at greater accuracy in diagnosis and to be able to intelligently apply every method that may assist in making it, should be the aim of all.

There remains much to be learned from the study of the blood, and though still in its infancy, sufficient has been demonstrated to establish its value, and the future will undoubtedly reveal for it a much more extended field of usefulness.

Charters have been granted also to the following societies:

Livingston County Medical Society. President, Wm. J. McHench, Brighton; secretary, R. H. Baird, Howell.

Houghton County Medical Society. President, A. I. Lawbaugh, Calumet; secretary, W. K. West, Calumet.

Mecosta County Medical Society. President, Joseph McNeece, Morley; secretary, F. C. Terrill, Big Rapids.

BACTERIAL TOXINS.

VICTOR C. VAUGHAN,
Ann Arbor, Mich.

There has been much discussion concerning the question whether the specific toxins have their origin in the cleavage action of bacteria acting as ferments on the complex proteids in the body or in culture media, or are due to synthetical processes by means of which the bacterial cell builds up its own tissue. For at least a few of the pathogenic germs this question has been practically settled, and it can be definitely stated that the specific toxins of these are synthetical bodies built up by the bacterial cell, and that the cells themselves contain the poison. In 1900 the writer succeeded in perfecting a large incubation tank, by means of which bacterial cells have been obtained in large amount free from constituents of the culture medium, and with the cell substance thus obtained numerous experiments have been made.

The Colon Toxin.—When the colon germ is obtained in large amount and after it has been freed from fat with alcohol and ether it forms a grayish white powder which takes up and holds moisture, but does not absorb enough to materially alter its physical condition. This powdered germ substance when stirred up with water and injected intra-abdominally into guinea pigs or rabbits is highly toxic, causing death in the former animals when used in the proportion of 1:40,000 of body weight, and in the latter in smaller quantities. This intracellular toxin is highly resistant to heat, and the powdered germ suspended in water in a sealed tube has been heated for 30 minutes to 180°C., without appreciable loss of toxicity.

When the germ substance is shaken with a one per cent. solution of sulphuric acid in water and filtered it is found that the clear filtrate on being treated with three volumes of 96 per cent. alcohol yields a flocculent precipitate which, if not allowed to stand for too long a time under alcohol, is readily soluble in water, forming, however, a somewhat opalescent solution. This alcoholic precipitate when dried first between folds of filter paper and then over sulphuric acid in vacuo forms a white mass which when rubbed up in a mortar is converted into a light grayish powder. When some of this powdered sulphuric acid extract of the germ substance is dissolved in water and injected intra-abdominally or subcutaneously into animals it causes death with the symptoms and post-mortem findings practically identical with those which follow administration of the whole germ substance. The part of the germ substance insoluble in dilute sulphuric acid is also poisonous, but much less so than that which is extracted with the acid. These investigations demonstrate that the colon bacillus contains an intracellular toxin which undoubtedly has a complicated constitution and contains two or more toxic groups, one of which is split off by the action of dilute acid. With this bacillus at least, the specific toxin is formed within the cell and does not have its origin in the cleavage action of the bacterium either directly or indirectly. The formation of this toxin is a synthetic and not an analytic process. Under ordinary conditions at least the toxin contained within the colon bacillus does not diffuse into the culture medium. This probably explains the reason why the colon bacillus, although containing a most potent toxin, resides constantly without harm to the individual in the intestines. It also explains

why when this germ gets into the peritoneal cavity and is broken down by phagocytic action the poison is liberated and manifests itself in the production of peritonitis or other inflammatory lesions.

Prolonged heating of the posion of the colon bacillus with one per cent. sulphuric acid destroys its toxicity, and this indicates that the toxin undergoes hydrolytic changes under the prolonged heating which breaks up its molecule into harmless constituents. We have not had time as yet to attempt to immunize animals to the toxin obtained from the cells of the colon bacillus by treating the cell substance with dilute sulphuric acid. It remains to be seen whether immunity can be secured to this poison or not, and if immunity be obtained, whether it extends to the toxin contained in the unaltered germ substance. Marshall and Gelston working in my laboratory have carried out a long series of experiments in endeavoring to induce immunity in guinea pigs and rabbits with the powdered colon germ. With the former animals the result has been practically negative, inasmuch as death has invariably resulted before any high degree of immunity has been reached. With rabbits the results have been somewhat more satisfactory, and they have succeeded in partially immunizing a few of these animals. Rabbits thus immunized furnish a serum which has been found to have a preventive influence in rabbits against colon toxin, but it is practically without effect in protecting guinea pigs. The knowledge which has been gained in the recent studies of the colon bacillus may be summed up as follows:

(1). The colon toxin is a constituent part of the cell, and is formed by synthetic processes which build up cell tissues.

(2). This toxin is highly resistant both to chemical agents and to heat.

(3). The toxin is undoubtedly of complicated constitution and contains two or more toxic groups, one of which may be split off by agents which have a hydrolytic action.

(4). The toxin split off from the cell by dilute acids may be deprived of its poisonous property by the long continued application of heat, especially in the presence of free mineral acid.

The Anthrax Toxin.—Ever since it was admitted that pathogenic bacteria induce harmful effects by the elaboration of poisons, chemists have endeavored to find the specific poison of anthrax. Hoffa at one time claimed that he had found a basic substance, to which he gave the name anthracin, and which he believed at that time to be the specific poison of the disease. However, subsequent investigations have demonstrated that this substance cannot be considered the specific poison of anthrax, and moreover no one else has ever succeeded in obtaining it. Without going fully into the literature of this subject, which, by the way, is quite voluminous, the writer desires to refer to a comparatively recent research by Conradi, in which the work of previous investigators has been reviewed, and is followed by a statement of his own researches. Conradi attempted to solve the question of the existence of an anthrax toxin by the following methods:

(1). He inoculated guinea pigs intra-abdominally with anthrax; obtained peritoneal exudates which formed in these animals in quantities of from 10 to 20 cc., filtered these exudates through porcelain and injected the germ free filtrate into mice, rabbits, guinea pigs and other animals, without any effect.

(2). The organs of guinea pigs which had succumbed to anthrax were rubbed up in mortars with sterilized sand, diluted with physiological salt solution, filtered through porcelain, and injected into rabbits, guinea pigs, rats and mice, without effect.

(3). Sacs similar to the collodion sacs so generally used in bacteriological laboratories were filled with cultures of anthrax and placed in the abdominal cavities of susceptible animals where they remained without detriment to the health of the animal, thus showing that the anthrax bacillus does not produce any soluble toxin. The truth of the matter is that this fact had been demonstrated more than twenty years ago by Pasteur, who filtered both the blood of animals sick with anthrax and artificial cultures of this bacillus through porcelain and injected the germ free filtrate into animals without inducing the disease.

(4). Peritoneal exudates obtained from animals dead with anthrax were sterilized by prolonged and frequent shaking with toluol and after being sterilized in this manner were injected into susceptible animals without effect.

(5). Cultures of the anthrax bacillus free from spores were deprived of vitality by exposure for 110 hours to -16° , and after having been shown to be sterile by being kept in the incubator for some time, were injected into susceptible animals without effect.

(6). Cultures of the anthrax bacillus were exposed to hydraulic pressure of 500 atmospheres and the fluid thus obtained after filtration through porcelain was injected into animals without effect.

(7). The experiments of Brieger and Fraenkel, who at one time reported the

discovery of an anthrax toxalbumin were repeated with negative results.

From these investigations Conradi concluded: "By no method known at present can it be shown that the anthrax bacillus forms either an extra cellular or an intracellular poison in the animal body. Indeed, these experiments increase the probability that the anthrax bacillus does not form any poisonous substance. Therefore the solution of the manner in which anthrax infection results must remain unknown. Whether improved chemical methods will lead to the detection of a poison or not cannot be predicted, but for the present the anthrax bacillus must be regarded as a purely infectious micro-organism."

Experiments carried out in the writer's laboratory by J. Walter Vaughan recently apparently offer a satisfactory solution of the question of the existence of an anthrax toxin. A large amount of the germ substance was obtained and the bacterial powder was heated with one per cent. sulphuric acid in the autoclave at 110° for ten minutes. The clear filtrate obtained with the dilute acid on being treated with three volumes of 96 per cent. alcohol deposited a white flocculent precipitate, which when collected, dried, and pulverized, has been found to be soluble in water and to kill guinea pigs with all the symptoms and lesions of anthrax when injected into the abdominal cavity in doses of from 50 to 100 mgs. It has also been found that the part of the germ substance undissolved by the dilute acid is poisonous, but much less so than that part split off by the acid. The following conclusions have been reached from these studies of the anthrax bacillus:

(1). The anthrax germ does produce an intracellular toxin, which contains two

or more toxic groups, one of which is split off by means of dilute sulphuric acid at the temperature of 110° .

(2). The split toxin is deprived of its poisonous properties by continued heating in the presence of free mineral acid.

(3). The toxin split off by dilute acid is probably basic in character and possibly belongs to a low order of proteid substances, since it does not respond to the biuret or Millon test, but does give the xanthoproteic action.

From this work on the chemistry of the anthrax cell it seems evident that this bacillus in the animal body must undergo certain hydrolytic changes by means of which its toxin is set free. Whether this process of freeing the toxin is a passive one and due to the normal disintegration of the dead cell, or is accomplished by the activity of certain cells in the animal body, remains for future investigations to determine. It seems likely that the cells of the animal body in resisting the invasion of the bacterial cells split the latter up, and in so doing, liberate the poison which destroys the life of the animal. This, however, is a matter of speculation, and any authoritative statement on this subject must await more elaborate investigation.

The Diphtheria Toxin.—The remarkable theory concerning the action of toxins and antitoxins and the mode of the formation of the latter, advanced by Ehrlich, is based upon a large number of carefully conducted experiments with the toxin and antitoxin of diphtheria. The essential points of Ehrlich's theory are as follows:

(1). Toxins and antitoxins neutralize one another after the manner of chemical reagents. The chief reasons for making this statement lie in the observed facts (a) that neutralization takes place more rapidly in concentrated than in dilute solu-

tions; and (b) that cold retards, and warmth hastens neutralization. From these observations Ehrlich concludes that toxins and antitoxins act as chemical reagents do in the formation of double salts. A molecule of the poison requires an exact and constant quantity of the antitoxin in order to produce a neutral or harmless substance. This implies that a specific atomic group in the toxin molecule combines with a certain atomic group in the antitoxin molecule.

(2). Antitoxin is a reaction product of the living organism, and not a transformation product of the toxin introduced in securing immunity. According to Ehrlich, when the toxin is introduced into the animal body in small quantities it combines with certain side chains in the molecules of the living cells. These side chains are supposed to be necessary for the proper functioning of the cells which, finding themselves deprived in part of their function, on account of combination with the toxin, elaborate more side chains. As an illustration: When a small quantity of tetanus toxin is introduced into the animal body it combines with certain side chains of the molecules of the cells of the central nervous system, and renders these atomic groups useless so far as the nutrition of the cell is concerned. In order to compensate for its loss the cell produces another side chain similar to the one of which it has been deprived. Being called upon repeatedly to exercise this activity, there is not only compensation, but over-compensation, and the result is that more side chains are formed than the cell can use, and these break off and float away in the blood, constituting the antitoxin. Moreover, the atomic group, or side chain, after being liberated from the cell may acquire greater avidity for combination with

the toxin, or in other words, the toxin will combine more readily with these side chains when free and floating in the blood than when they constitute parts of the molecules of cells.

(3). Diphtheria toxin, as it exists in sterilized cultures, is composed of equal parts of toxin and toxon. The latter has no serious effect upon animals. It may cause local oedema, but it never kills. The toxin, which may be regarded as inert, has quantitatively the same power of combination with the antitoxin as is possessed by the toxin, but combines with the antitoxin with less avidity.

(4). The well known fact that crude diphtheria toxin decreases in toxicity on standing has been explained by supposing that there is a gradual conversion of the toxin into toxon, while the other equally well observed fact that the toxin of diminished toxicity requires the same amount of antitoxin for its neutralization as the original toxin did is explained by the theory that toxon and toxin combine with antitoxin in the same proportion.

Gelston, at work in my laboratory, has shown that in addition to the soluble diphtheria toxin, which exists in cultures of this bacillus, there is also an intracellular toxin. Moreover, he finds that commercial diphtheria antitoxin, while it protects animals against the extracellular poison fails to afford protection against the intracellular toxin. This undoubtedly explains the facts which has been observed by others that certain animals which are practically immune to diphtheria toxin are not immune to diphtheria infection. Whether or not an antitoxin for the cellular toxin of diphtheria can be produced in animals artificially remains to be determined. The relation between the cellular

toxin and the soluble poison also opens up a question of interest and importance, which must be solved by future investigation.

On October 8th, 15th and 22nd will occur the organization of the medical societies of Ionia, Lapeer and Washtenaw Counties, respectively.

The Wexford County Medical Society has been organized. Dr. B. H. McMullen, Cadillac, was elected President, and Dr. G. D. Miller, Cadillac, Secretary.

On October 14th the physicians of Lenawee County will formally organize the Lenawee County Medical Society. On the same day will occur the organization of the Jackson County Medical Society.

A charter has been granted to the recently organized Houghton County Medical Society. The officers are Dr. A. I. Lawbaugh, of Calumet, president, and Dr. W. K. West, of Calumet, secretary.

A charter has been granted to the Oakland County Medical Society, which was organized Sept. 9, 1902. Dr. F. B. Galbraith, Pontiac, President, and Dr. Wm. McCarroll, Pontiac, Secretary, will look after the society's interests during the coming year.

Most satisfactory reports have reached us from Livingston County of the organization of a county medical society there on Sept. 17th. Of twenty-four physicians in the county, eligible to membership, nineteen have already joined the society. Dr. Wm. J. McHench, of Brighton, was elected president and Dr. R. H. Baird, of Howell, secretary. A charter has been granted.

At the Annual Meeting of the Society, Port Huron, June 26th, 1902, before the Section on Surgery the following symposium was delivered:

THE SURGERY OF THE KIDNEY

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| (a) Floating and Movable Kidneys, | RICHARD R. SMITH, Grand Rapids. |
| (b) Calculus in the Kidney and Ureter, | T. A. MCGRAW, Detroit. |
| (c) New Growths of the Kidney, | A. S. WARTHIN, Ann Arbor. |
| (d) Acute Kidney Infections, | T. A. FELCH, Ishpeming. |
| (e) Surgery of the Kidney in Tuberculous Conditions, | W. H. HAUGHEY, Battle Creek. |

FLOATING AND MOVABLE KIDNEYS.

RICHARD R. SMITH,
Grand Rapids, Mich.

The tendency of the past few years in treating movable kidneys has been toward a greater conservatism. This has been brought about by a more general recognition of several facts.

First—That a large percentage of movable kidneys produce few, if any, symptoms.

Second—That where we find a movable kidney, in many cases we will also find a prolapse of the stomach, intestines, liver and even spleen, and that the general displacement of all these organs and not of the kidney alone accounts for the symptoms.

Third—That in many of these cases the neurasthenic element is well marked and the pain in question is due to this condition and not to the kidney itself.

Fourth—That operation fails in many cases to retain the kidney permanently in place and that in these patients neither an actual nor a symptomatic cure is obtained.

Fifth—That a well directed treatment, other than surgical, produces oftentimes symptomatic cures which are satisfactory.

A more general recognition of these facts has brought about a more careful selection of cases for operation. Personally I do not advise operation except in those cases where other means have been faith-

fully tried, where the symptoms can be directly traced to the kidney and in which the neurasthenic element is not marked.

Nephrectomy was early practiced for the relief of this disease. It was found, however, to be attended with a considerable mortality and nephrorrhaphy has been generally substituted. The number of operations which have been devised are legion. They may be divided into three classes: those in which a foreign substance, as gauze, is packed about the kidney, the resulting adhesions forming the future support of the organ; those in which the kidney has been stitched to the lumbar fascia without opening the capsule; thirdly, those in which the capsule is partially removed and the kidney substance brought into direct apposition to the fascia or muscles of the incision. There have been many details of more or less value suggested and carried out by different operators, but the three operations described below are types and will serve the purpose for a general description.

First.—The operation of Nicolas Senn. The fatty capsule is removed or pushed aside and a strip of gauze placed about the lower pole of the kidney in such a way as to suspend the kidney as in a hammock. The ends of the gauze are brought out through the incision, which is left entirely open. The gauze is removed in a few days and the wound allowed to heal by granulation.

Second.—This operation has been described by Goelet and has been carried out, often with modifications by different operators. The fatty capsule is stripped back or partially removed as may be necessary, the kidney brought well into the incision without removing the true capsule, a suture is passed on a needle in a longitudinal but slightly oblique direction, the needle entering the kidney at a point on its posterior surface some little distance from the upper pole. The needle and suture emerge half an inch or so from the point of entrance and are inserted again near the point of exit, pass in a transverse direction taking in about the same amount of kidney substance again and emerge once more near the convex surface. Another similar bite brings the needle and suture out near the original point of entrance. This, as will be seen, forms a triangle, encompasses quite a little of the kidney substance and affords a firm grip for the suture. The two ends of the suture are then sewed into the lumbar fascia on the side nearest the vertebra. If desired, several such triangles may be made lower down on the kidney in a similar manner. This brings the posterior surface of the kidney up against the lumbar fascia, dependence being put upon the adhesion so formed for the future support of the kidney.

Third.—This operation is best described and carried out by Edebohls. The usual lumbar incision, either vertical or oblique, is made, the fatty capsule of the kidney partially removed, the kidney brought well into view and the capsule split from end to end by an incision made on a grooved director to avoid injuring the kidney and thus causing troublesome oozing. The flaps are then reflected so as to expose a surface of about three-fourths

of an inch in width on the convex surface of the organ. A catgut suture is then passed on a curved needle through the fascia at the upper angle of the lumbar incision, then through the reflected capsule an inch or an inch and a half from the upper pole, deeply through the substance, and out again through the reflected capsule on the other side, and then through the fascia opposite the point at which the suture first entered. Five or six sutures are then passed in this manner, about three to the inch, through the fascia and kidney below this point. Care must be taken to put no undue strain upon these sutures for fear of tearing the kidney. Other sutures are passed independently through the fascia alone, to avoid bringing undue strain upon the kidney sutures when the incision is closed. When all is ready, the original sutures are gently tightened, bringing the denuded surface of the kidney well up against the incision; the sutures passing through the fascia alone, being then tied, and, last of all, the kidney sutures themselves. The skin and underlying tissue may be brought together with silkworm gut. All kinds and sizes of catgut have been used in this operation, according to the habit of the operator.

The operation of Edebohls has the disadvantage of rendering more or less traumatism to the kidney sutures. An operation which simply sutures the capsule itself, on either side, to either side of the incision without injuring in any way the kidney substance itself, has seemed to me to be equally as efficacious and does away with the objection of the operation just described.

Any of these operations may be attended with relapses, still, a considerable proportion of them are effectual and the results oftentimes brilliant.

CALCULUS IN THE KIDNEY AND URETER.

THEODORE A. MCGRAW,
Detroit, Mich.

It has seemed to me best, on presenting this subject for discussion, rather to confine myself to a brief outline of its various phases than to enter into a long and exhaustive discussion.

As regards the etiology of kidney and ureteral calculi, the division sometimes made into primary and secondary seems to me unpractical. There are no primary calculi, for their formation always depends upon some antecedent abnormality. Neither may we consider them as aseptic or septic in their origin, for the reason that those which have originated in the lodgment of some septic germ in the kidney may nevertheless, when the germ has been incruited by urinary salts, pursue henceforth a perfectly aseptic course, while others which were aseptic in origin may cause irritation and abscess. It is better to study first the causes which are predisposing, then those which are exciting, and determine, if possible, whether there are any which might be avoided by a proper hygiene.

According to authors, who have made this field the especial object of their study, heredity plays an important part in the production of urinary calculi. In some families the malady has been traced through several generations. While the fact that the members of such families have been exposed to a similar environment, living over the same soil and in the same climate, and eating the same kind of food and using the same kind of drinks, must not be forgotten, yet it must also be remembered that neighbors who have lived very nearly after the same

fashion have enjoyed an immunity from the disorder. The conditions which make this hereditary tendency are, in all probability, peculiarities in the formation of the kidneys and ureters, and possibly in some of the digestive organs, which repeat themselves in several generations. We may seek for a main predisposing cause of stone, in defective developments, which act either in causing some abnormal secretions of urine or in obstructing the discharge of that fluid. That errors of development are largely responsible for the formation of stone is rendered probable by the fact that nearly half of all cases of stone occur in children under twenty years of age. Between twenty and forty years stone rarely originates. After forty the beginning degenerations play a part, which will hereafter be considered.

The gross abnormalities which affect the secretion and discharge of urine are those which are manifested in altered shape or position of the kidney, or in some peculiarity in the manner in which the ureter issues from the pelvis of the kidney. It is easy to understand how urine would stagnate in a pouch formed in the pelvis of the kidney if the ureter were connected with that pelvis high up on the side instead of at its most dependent portion.

So, too, a narrowing of that canal at the upper portion might favor the deposit of salts. It is not impossible, too, that the small tubules might prove insufficient for the discharge of urine and thus serve as a predisposing cause for the formation of stone in the substance of the kidney. I have not been able to find any observations which have been made on purpose to elucidate this point in the pathology of stone. While nar-

rowing, or malpositions of the urinary canals, whether congenital or otherwise, predispose to calculus disorders, it is not probable that they ever are the sole causes. Thus, in many cases of ureteral malformations, which cause hydrops of the kidney, there is no formation of stone, while in others, which are in every other respect similar, the presence of calculi makes a serious complication. Abnormalities in the chemical constitution of the urine undoubtedly play an important part in the origin of calculi; whatever disposes to a precipitation of the urinary salts when still warm and in the body would act as an efficient factor. Thus a relative disproportion in the amount of solids and water, or any condition which would make the solids less soluble, would favor the deposit of grit, and consequently the formation of stone.

Just what conditions affect the formation of the urine in this way are not positively known, but the fact that urinary stone is endemic in certain localities and comparatively rare in others indicates plainly that soil and climate and the composition of the drinking water have much to do with the occurrence of this kind of disease.

That nervous influences act upon the urinary secretion is well known, but it is nevertheless a problem why the destruction of the spinal cord in the thoracic region is almost always followed by the formation of stone in the kidney. The occurrence of foreign substances in the kidney is apt to be followed by the deposit around them of urinary salts. This will always be the case sooner or later unless they are washed out by the flow of urine. Dead epithelium, clots of blood, inflammatory exudate, pus, tumors, bacilli and parasites of all kinds

may form the nuclei around which calculi are built. For this reason, stone may result from injury, or from infectious diseases, like typhoid fever or gonorrhœa. In general, however, no one cause acts alone in the formation of stone. A nucleus, if present, may be carried away if the passage is large and unobstructed and the urine copious. If, however, in any part of the kidney a nucleus is lodged and the urinary passages are contracted or dislocated and the urine concentrated, a calculus will almost surely follow.

When a stone is formed in the kidney it begins, as a rule, to cause irritation of the surrounding tissue. The degree of irritation, however, will depend upon the hardness and roughness of the stone, its mobility and its location with reference to causing obstruction. An oxalate of lime calculus will cause more injury than one of uric acid or than a phosphatic stone. A stone that lies in the pelvis of the kidney and rolls around with every movement of the body will produce more trouble than an immovable calculus imbedded in the substance of the kidney; and one in the ureter more than one in the calyx. Occasionally stones are found in the kidney in post-mortems, which have never caused pain or trouble. The irritation may result in an abscess of the kidney or its pelvis, but it must not be forgotten that the existence of pus in the organ may be the forerunner and cause of stone, and not its effect.

The erosion caused by a rough, movable calculus may injure blood vessels and occasion serious, and even fatal, hemorrhages.

The frequent occurrence of stone in both kidneys may be due to the operation in both of the same influences. Ab-

normalities in formation may be common to both, and the same morbid quality of urine might also be common to both kidneys. There are, nevertheless, reasons for believing that in some cases, at least, calculus may result in one kidney from an irritation produced by a stone in the other. So, too, when one ureter is obstructed by a calculus, the reflex irritation caused in the other may induce a congestion with dangerous, or fatal, suppression of urine.

Among the symptoms caused by calculus in the kidney, or ureter, pain is usually the first that is noticed. The location and severity of the pain, however, differs widely in different cases. A calculus imbedded in the substance of the kidney may cause only a moderate degree of discomfort. Loose stones in the kidney pelvis cause pain that is aggravated by motion and jar. A stone impacted in the ureter produces an intense agony, which is afterwards increased by the distension of the renal pelvis by accumulating urine. The pain may be reflected and located by the patient, in the stomach, testes, penis, urethra, bladder, gall-bladder, appendix or other kidney. Percussion over the kidney may or may not elicit a sense of soreness. The vomiting caused may be as severe as that of any stomach trouble. If suppuration results there may be chills and fever. Pus will then begin to appear in the urine, which may besides contain crystals and earthy deposits.

The persistent irritation of stone in the pelvis of the kidney sometimes causes a hardening and thickening of the fatty capsule, which simulates a tumor. A movable stone, as it rubs against the surrounding tissues, may cause slight or serious hemorrhages. The microscope

will often enable us to detect blood corpuscles when the urine shows no albumen by chemical examination. The cystoscope will aid in the diagnosis when pus or blood is discharged from one or both ureters, and in women a sound passed through the ureter may sometimes detect a calculus high up in that canal or in the pelvis of the kidney. The X-ray may be brought into service and the shadow of the stone be made apparent to a skilled observer. In using the X-ray for this purpose the soft tube is preferred, as the light from the hard tube passes through all obstructions of calculus character. In using the X-ray the surgeon must bear in mind that hard metallic or stony substances in the liver, stomach, spleen or large intestine might seem to be in the kidney if they lay just before that organ. Finally, the reflex irritation caused by stone in the well kidney may result in a total suppression of urine, which, if not relieved, will be a symptom indicating speedy death.

When the symptoms are all present the diagnosis may be easy. In many cases the nature of the malady may remain obscure in spite of all of our efforts. We have to diagnosticate calculus in the kidney or ureter from ulcer of the stomach, gall-stones and inflammations of the gall-bladder, diseases of the spine, appendicitis, lead poisoning, maladies of the urinary bladder, and tumors and inflammations of or around the kidney. Where the evil is great, and all other means fail, an exploratory operation is justifiable. As regards treatment, it must, of necessity, vary with the case. If we are called to a person suffering from a first attack of renal colic, we must, first of all, relieve the agonizing pain by the use of opiates. I have not that dread

of opiates which some surgeons have, on account of their obscuring diagnosis. I do not think that any experienced man need mistake the quiet produced by the opiate for an improvement in the disease, whether that disease is due to renal colic, gall-stones, appendicitis, or obstruction of bowels, however much such conditions may puzzle the beginner. During and after such attacks the urine should be carefully saved and examined for sand or small calculi. If any concretions are passed, with a corresponding relief of symptoms, the diagnosis is established as regards that attack, and there will be henceforth a reasonable presumption that any succeeding colics with similar symptoms is due to the same cause. After such an attack the patient should be carefully examined with an X-ray, and such examinations should be repeated as often as the patient suffers from renal colic, or as long as a dark shadow in the picture of the kidney indicates the presence of a calculus in that organ. The examination should be made with a so-called "soft tube." If there should appear a large shadow, indicating a large stone, with symptoms of irritation and distress, an operation is at once indicated. If small shadows should appear in the picture, the surgeon should be more cautious. It is very easy, however, to mistake the import of what one sees in a skiagraph, the more especially if one makes his diagnosis beforehand. I had a curious example of that about six weeks ago, when a lad, who held his arm in an awkward position, was brought to me to be treated for a dislocation of the shoulder. Some very intelligent physicians had seen plainly the head of the bone in the axilla with an X-ray apparatus. There was no dislocation, and

under an anesthetic all stiffness and deformity disappeared. The lad, who had never had an injury, was suffering from an indioathic inflammation of the shoulder joint. It is dangerous, therefore, to accept the evidence afforded by the X-ray without further corroborating proof.

Before entering upon the surgical treatment, it is well to say a word about the medical treatment. It may be all said in a very small chapter. There is no remedy which will dissolve a calculus in the human body. If there is no stone, but a renal colic—which depends merely upon a urinary sediment—the ingestion of large quantities of pure water will tend to wash out the injurious particles by producing a copious flow of urine. The same good result may occur when free stones are small enough to pass out through the ureter.

It is probable that all the good which has been accomplished by mineral springs has been done in this way. As a means of prophylaxis, patients suffering in this way should have their diet and drink so ordered as to render the urine as normal as may be possible. Waters holding in solution large quantities of lime salts should be strictly forbidden. Every care should be taken to keep the digestion in the best of order and to regulate the functions of the skin. It ought to be thoroughly impressed upon patients showing a tendency to the formation of stone that nothing can ever give relief when a stone too large to pass the ureter has once formed, but a surgical operation. This is the universal experience of men who have made this subject an exact study. The question arises, whether we should always operate when a stone is discovered in the kidneys or ureter. I do not hesitate to say that

the answer should be a decided "Yes." Even though a stone imbedded in the kidney substance is for the present quiescent, it will be sure sooner or later to cause serious trouble. Unfortunately the question does not come to us in actual practice in that form. Practically the surgeon has to ask himself whether he shall operate in a given case in which the presence of stone is suspected but not proven. If we have a patient who suffers from attacks of colicky pain in the loin and lateral aspect of the abdomen, without any other symptoms whatever, shall we operate? And, if so, for what? And how? If the only symptom is an occasional hemorrhage from one or the other kidney, shall we then cut down and explore the kidney? Such are the forms in which questions occur to the surgeon studying over his individual cases.

We have to decide, in doubtful cases, with reference to the individual. If a man suffering from constant pain in the loin, or some other one symptom, is willing, after full explanations, to take the risk of an operation, of doubtful utility, it is right to make an exploratory operation when we should hesitate to urge it upon a patient who is timid and demands certain results.

The conditions which make operative measures imperative are: First. A suppuration of the kidney, with failing health, or a perirenal abscess. Second. Severe and repeated hemorrhages which threaten to destroy life and can be traced to one kidney. Third. Suppression of urine. Suppurations of the kidney due to the presence of calculi too large to pass through the ureter can be relieved only by incision, extraction and drainage. The incision should be made in the

loin, extra-peritoneal. The kidney should, if possible, be lifted out of its bed and stripped of the external capsule. If the stone can be felt in the pelvis, that structure should be incised. Through that orifice the ureter should be carefully examined, the kidney probed. The examination of the kidney when thus exposed, by means of the X-ray, would be of great assistance to the surgeon. It would enable him to determine positively whether other calculi existed in the organ and where they were located. If such should prove to be the case an incision should be made on the convex surface of the kidney, a little posterior to the middle line and parallel to its long axis. This cut is in the line of least vascularity, and will be followed by least hemorrhage. After extracting the stones the surgeon may either sew the kidney together or stuff its cavity with gauze until all bleeding has ceased. Where there has been no suppuration, the cut in the pelvis of the kidney, if closed by fine silk—which should not penetrate its walls—will frequently heal by first intention. When, for any reason, hemorrhage is to be feared, an elastic ligature may be temporarily passed around the pedicle and fastened with forceps, to be loosened after the operation has been done.

It may not be possible to bring the kidney to the surface, for the inflammation which has enveloped it may bind it down with hard cicatricial bands, exceedingly difficult, as well as dangerous to divide. The external capsule, too, may surround the organ in the form of a dense and adherent tumor of hard fat, making necessary a careful and tedious dissection. These cases often tax the ingenuity of the surgeon to the utmost.

The sudden suppression of urine, such as occasionally happens from calculus, and which may by reflex irritation affect the well kidney as well as the sick one, demands prompt measures.

Schede, in his chapter on stone in the kidney, speaks of men living several days with total suppression of urine, but advises not to delay action for more than forty-eight hours. My own experience is very different. I have had a number of cases after various operative procedures, and have never seen them live more than thirty-six hours after the symptoms first became manifest. There is no condition which, in my opinion, demands imperatively such prompt interference as this. The kidneys, in these cases, are prevented from exercising their function, by an enormous swelling and congestion. There is only one way of relief and that is the splitting of the internal capsule from one end to the other. Where suppression follows on stone, it is better to operate first on the diseased kidney and extract the stone. With the relief of this irritation the whole trouble may subside. If, however, that kidney should be found too diseased to warrant hope of relief, or if after twelve hours there is still no secretion of urine, the surgeon should delay no longer, but proceed to expose and operate on the well organ.

When a stone becomes lodged in the ureter it is generally, according to Israel, caught at the point where the ureter crosses the rim of the pelvis, and may often be detected there by rectal or vaginal examination.

The operation for such an impacted stone can usually be best conducted from the kidney pelvis. A sound introduced through the upper end of the ureter may push the stone into the bladder. If that

fails, the incision may be carried downwards, extra-peritoneally, and the ureter exposed. The calculus may then possibly be coaxed upwards into the pelvis of the kidney, and thence extracted. If that procedure also fails the ureter may have to be cut in the direction of its length and the stone taken out through the orifice. If possible the ureteral wound should then be closed with sutures, but the wound should, even then, be drained.

NEW GROWTHS OF THE KIDNEY.

ALDRED SCOTT WARTHIN,
Ann Arbor, Mich.

No other chapter of pathological anatomy is at present in such a confused and unsatisfactory state as that concerning renal neoplasms. The literature of the subject represents a transitional stage, the chapters treating of tumors of the kidneys in the majority of text-books being based upon the older clinical observations, which in the light of present pathological knowledge are practically worthless. Though numerous cases of kidney neoplasms have been reported since 1650, when the condition is first mentioned (*scirrhus*, *Sennert*), it is at this late day impossible to gather from the literature any satisfactory presentation of the subject. The earlier reports were chiefly case records of scanty nature; the growths were apparently without discrimination designated "renal growth," "cancer," "medullary," "encephaloid," "fungous hematodes," etc., with reference only to the most prominent gross characteristic of softness or

vascularity. Microscopical examinations were only rarely made before 1880. No attempt at differentiation was thought of; carcinoma and sarcoma were considered under one head "cancer," and from these early imperfect and often incorrect observations the majority of surgical and medical text-books of to-day base their generalizations and perpetuate dicta founded upon error.

It has been left to the pathologists of recent years to make careful microscopical study of renal growths, and by a scientific classification, based upon anatomical characteristics and histogenesis, prepare the way for a more rational clinical view. The paper of Grawitz in 1883, treating of adrenal inclusions in the kidney, may be regarded as epoch-making in so far as the pathology of renal growths is concerned. Grawitz claimed that a large class of renal neoplasms described under various heads as lipoma, myxolipoma, adenoma, adeno-carcinoma, etc., were in reality inclusions of adrenal tissue in the kidney (*struma lipomatodes aberrata renis*), and that these growths usually benign might become foci of development of malignant tumors. The great value of Grawitz's work lies chiefly in the extraordinary stimulus given by it to the study of the pathology of renal tumors, and since 1883 there has been a flood of literature bearing upon this subject. His views were soon confirmed by Chiari, Strübing, Löwenhardt, Beneke, Horn, Marchand and many others. They were attacked, however in 1892 and 1893 by Driessen and Sudeck, who rejected the theory of adrenal origin, the former regarding the growths as endotheliomata, the latter as renal adenomata. During the same years

Hansemann and Hildebrand upheld the endothelial origin of these tumors. Sudeck's paper was critically discussed by Lubarsch and Askanazy in 1894, these authors confirming the view of Grawitz. Since 1894 numerous papers have appeared in support of the theory of adrenal histogenesis for a large class of renal tumors (Ulrich, McWeeney, Jores, Lubarsch, Manasse, Gatti, Ricker, Kelly, etc.); and the term, hypernephroma, first used by Birch-Hirschfeld, has come to be the most commonly-accepted designation for this class of renal neoplasm. The direct and most important result of the discussion between the hypernephroma, adenoma and endothelioma schools was the tremendous impetus given to careful histological study of renal growths and the resulting attempts at a rational classification according to histogenesis.

In 1898 appeared Kelynack's "Renal Growths," the first reference book dealing exclusively with this subject. During the last several years an increasing number of cases have been carefully studied by pathologists, and the pathology of the subject has been brought much nearer to a satisfactory position. At the present time investigators are busied with the problems of histogenesis rather than with the general characteristics of renal growths, the latter having become relatively familiar. Until such histogenetic problems are satisfactorily solved it is clear that we can have no satisfactory working classification of the neoplasms of the kidney. The complex and as yet somewhat obscure embryology of this organ makes the problem a very difficult one. In attempting such a classification it must be borne in mind that it is only a temporary arrangement based upon our knowledge of to-day and by

the discovery of to-morrow subject to alteration. This condition, common to all branches of scientific investigation, must be especially emphasized with re-

gard to this subject. With such reservation, I offer the following classification of renal growths according to their histogenesis:

CLASSIFICATION OF KIDNEY NEOPLASMS.

KIDNEY NEOPLASMS.	1. Origin from Epithelium.	<ul style="list-style-type: none"> 1. Glomerular. 2. Tubular. 3. Pelvic. 	<ul style="list-style-type: none"> a. Benign. b. Malignant. 	<ul style="list-style-type: none"> Adenoma. Cystoma. Benign Papilloma. Carcinoma.
	2. Origin from Stroma.	<ul style="list-style-type: none"> 1. Connective Tissues. 2. Endothelium and Perithelium. 	<ul style="list-style-type: none"> a. Capsular. b. Interstitial. a. Lymph-vessels. b. Blood-vessels. 	<ul style="list-style-type: none"> a. Benign. <ul style="list-style-type: none"> Fibroma. Fibrolipoma. Lipoma. Myxoma. Leiomyoma. b. Malignant. <ul style="list-style-type: none"> Simple Sarcoma. Lymphangioma. Endothelioma. Hemangioma. Angiosarcoma. Endothelioma. Perithelioma.
	3. Origin from Embryonal Inclusions, Wolffian Body, etc.	<ul style="list-style-type: none"> 1. Simple Teratoma. 2. Complex Teratoma. 	<ul style="list-style-type: none"> a. Benign. b. Malignant. a. Benign. b. Malignant. 	<ul style="list-style-type: none"> Lipoma. Leiomyoma. Rhabdomyoma. Hypernephroma. Rhabdomyosarcoma. Malignant Hypernephroma. (Mixed Sarcomata).

OCCURRENCE.—By the majority of writers primary renal tumors are regarded as being of comparatively rare occurrence. The statistics collected by Kelynack in 1898 show percentages of occurrence varying from 0.19 to 4.6. Hansemann stands almost alone in asserting their relative frequency. In a recent article, "Ueber Nierengeschwülste," he declares that there is hardly another organ of the body in which tumors are of such frequent and manifold occurrence as in the kidney. He explains their apparent rarity by the fact that only comparatively few of the primary renal tumors give rise to clinical symptoms, the majority being insignificant growths, discovered only at autopsy. With reference to the relative occurrence of the different forms

of primary renal tumors, no reliable statistics exist at present. The statements found in the text-books regarding this point are for the greater part based upon incorrect diagnoses. By many writers it is stated that carcinoma is the most common renal neoplasm; in reality, it is of very rare occurrence, the mistake being founded upon the older clinical diagnoses by which the term cancer was indiscriminately applied to hypernephroma, adenoma and endothelioma. That kidney growths are relatively frequent is borne out by our experience in the University laboratory of pathology, where they were found in seven out of one hundred autopsies, in two cases the growth being the cause of death, the other five occurring as autopsy findings

without previous symptoms. Of these seven cases two were lipomata, one carcinoma and four hypernephroma. In addition to these autopsy cases five specimens of primary renal tumor have been sent to this laboratory for diagnosis during the last five years, one lipoma, one spindle-cell sarcoma, one malignant teratoma, and two hypernephromas.

TUMORS OF EPITHELIAL ORIGIN. *Adenoma.*—True adenomata arising from the renal tubules are rare, if the small adenomatous hyperplasias found in contracted kidneys are excluded. The latter are of the nature of a compensatory hyperplasia, and between them and the true adenomata no definite histological line can be drawn, as is the case with compensatory hyperplasias in other organs (cirrhotic liver). The true renal adenomata are small, rarely larger than a hazel nut, white or grayish, and are found in the cortex, usually in connection with the convoluted tubules. Only rarely do they reach a large size; not infrequently they become cystic. Many show a definite capsule of connective tissue sharply outlining them from the surrounding kidney parenchyma. The significance of the capsule is not clear; it may arise from the surrounding tissues as the result of inflammatory reaction, or if an essential part of the tumor the adenoma is to be explained as arising from an isolated anlage of kidney substance. Two histological varieties of renal adenoma are found, the simple tubular and the papilliferous. The cells lining the tubules or covering the papillæ resemble the epithelium of the convoluted tubules, and may occasionally be found to be directly continuous with the epithelium of one of these tubules. Usually the cells are somewhat flatter and lack the radial stri-

ation of the "Bürstensaum." About the adenoma the kidney substance is more or less compressed and presents the appearance of a primary contracted kidney. Clinically the adenomata are without significance; they produce no symptoms and are usually found only at autopsy. Retrograde changes may occur in them, and hemorrhage into the tubules is not infrequent.

Cystadenoma.—Cystic tumors lined with epithelium are probably the most common variety of renal neoplasm. They are usually small and often possess a capsule. Two varieties occur, the simple cystoma and the papilliferous cystoma (papillary cystadenoma, papilloma, etc.). The papilliferous form is the more common. The papillæ may be very thick and broad, or very fine and narrow, and often so interlaced that sections of the growth appear as an adenocarcinoma or adenoma, the cyst space being obliterated by the papillæ. The latter form is very likely to become carcinomatous, often reaching a large size, breaking through into the veins and setting up metastases. The papillæ of both varieties are covered with flattened, cubical or low columnar epithelium. Retrograde changes, such as fatty and mucoid degeneration, necrosis, hemorrhage, etc., are of frequent occurrence. The origin of the cystadenoma may be either from simple retention cysts or simple adenomata, the dilatation of the tubules of the latter by secretions being followed by hyperplasia of the elements forming their walls. Transition forms may be found, and it is possible to trace all stages of development from simple adenoma through the papilliferous form to adenocarcinoma. The adenocystomata of the kidney show striking analogies to those

of the ovary. The smaller renal cystadenomata are unimportant clinically, as they give rise to no symptoms. The larger malignant forms are to be classed with the carcinomata.

Carcinoma.—True carcinoma arising from renal epithelium is rare, the great majority of cases recorded in the literature as renal cancer being undoubtedly hypernephromas, sarcoma or adenoma. In the great majority of cases of renal carcinoma the tumor takes its origin from the epithelium of the renal tubules, or from the epithelium of a papilliferous cystadenoma (malignant papilliferous cystadenoma). Adenocarcinoma is probably the most common variety, medullary second in frequency, scirrhous and colloid rare. The growth may be circumscribed or diffuse. In the former variety, no matter how large the cancer mass, some remains of kidney tissue may be found forming a capsule about it. The diffuse cancer is more rare, it is usually scirrhous; the kidney may retain its characteristic form, even though three times its normal size. On section the appearance is that of a primary contracted kidney, the outlines of kidney tissue being destroyed. Microscopically the entire tissue is carcinomatous, very few remains of glomeruli and tubules are found. Both circumscribed and diffuse forms may extend into the pelvis as polypoid growths, which may break through the capsule and invade neighboring tissues. Necrotic changes, hemorrhage, etc., occur as in other carcinomata. Only three cases have been reported of primary renal cancer arising in the glomeruli, those of Abram, Hildebrand and Sharkey. In Abram's case the parietal layer of Bowman's chamber was covered with several layers of deeply stained columnar cells,

metastases were present in the liver, bones, etc. It is probable that some congenital anomaly played a part in the development of this most interesting condition. Squamous-celled (cancroid) epithelioma has been reported a few times as arising from the epithelium of the kidney pelvis, but these cases are of somewhat doubtful nature. In all forms of renal cancer metastasis is of frequent occurrence, being found most often in the lungs, owing to the tendency of the growth to invade the renal vein and ascending vena cava. Except in the case of the papilliferous adenocarcinoma rupture through the fibrous capsule, is very rare.

TUMORS ARISING FROM STROMA. Benign Connective Tissue Growths.—These are of relatively rare occurrence in the kidney. They are usually small and only rarely are of clinical importance. *Fibroma.* These are usually found as small grayish-white bodies of the size of a pin-head or pea, in the cortex, arising from the capsule or just beneath the capsule, in the interstitial tissue of the parenchyma, or more commonly in the base of the medullary pyramids. They are harder, more circumscribed and more glistening than tubercles for which they may be mistaken. In very rare instances they may reach a very large size, one weighing $37\frac{1}{2}$ pounds having been reported. They may be single or multiple, and are usually encapsulated. Histologically they consist of fibrous connective tissue which is often mixed with large spindle cells resembling unstriped muscle. By many writers these are regarded as *fibromyomata* analogous to uterine fibroids. The smaller fibromata of the kidney are probably for the greater part of cicatricial origin. Myxomatous and cystic degeneration and calcification

are of frequent occurrence in the larger growths. *Lipoma*. The renal tumors composed of true adipose tissue are usually of small size and are most commonly found beneath the capsule. They are often multiple. Many of them are to be explained as congenital inclusions of the fatty capsule; others undoubtedly arise from fibromata (*fibrolipoma*) or from the connective tissue around the larger blood vessels. Only rarely do they become large enough to excite symptoms sufficient to call for operative interference. In one remarkable case reported by the writer a fibrolipomatous growth weighing two pounds was found as a large lobulated mass filling up the greatly-dilated pelvis of the left kidney and sending a prolongation of tumor tissue down into the distended ureter. The only remains of kidney tissue were found in the thin capsule covering the growth. *Myxoma* is of very rare occurrence in the kidney, but both the fibroma and fibrolipoma may undergo myxomatous change (*myxofibroma*, etc.). The significance is the same as in the case of the fibroma and lipoma. *Osteoma* and *Chondroma* have been reported as occurring in the kidney but it is probable that these growths were of teratoid nature. *Leiomyomata* occur as rare tumors of the kidney, arising either from unstriated muscle of the capsule or blood vessels. They may be multiple or single. The unstriated muscle may be mixed with connective tissue (*myofibroma*) or fat tissue (*leiomyolipoma*). These growths may be explained as arising from congenital inclusions of capsular anlage. *Lymphangioma* is of very rare occurrence in the kidney (*lymphangioma cysticum*). The *Hemangioma cavernosum* is more commonly met with in the form of dark-red encapsulated masses varying in size from a pea to a

hen's egg. They are found underneath the capsule or in the upper part of the medullary pyramids. They are identical in structure with the cavernous angiomata of the liver, though many of them appear to be rather of the nature of local capillary dilatations than true tumors. All stages of this capillary dilatation may be observed.

MALIGNANT TUMORS ARISING FROM STROMA. *Sarcoma*.—The simple sarcoma arising from the kidney stroma is of much more rare occurrence than carcinoma of the kidney. The majority of renal growths usually considered as sarcomata are mixed tumors and should be classed with the malignant teratomata. The simple sarcomata are usually spindle celled, though the round celled variety has also been observed. They form diffusely-infiltrating growths, only rarely are they nodular. Portions of kidney tissue apparently normal may be found throughout the tumor mass. The growth may take its origin from the capsule, interstitial substance of the parenchyma or from the pelvis. The growth is usually very rapid, and the tumor quickly undergoes degeneration and necrosis as in the case of carcinoma. The spindle cell variety is of slower growth than the round cell. On cross-section many of the growths show a much variegated surface due to hemorrhages, degenerations, etc. Many of the renal sarcomata are *Angiosarcomata*, arising either from the endothelium or perithelium of the vessels. These tumors are characterized by an alveolar arrangement, cords or cylinders of cells being grouped around ectatic blood vessels, the tumor-cells forming the wall of the vessel. The cells of these growths are usually spindle shaped. The growth usually undergoes rapid necrosis, owing to the obliteration of

the vessels through cell-proliferation, so that often the only living portion of the tumor is found at the periphery, the central portion being entirely necrosed. Metastasis of renal sarcomata is less common than in the case of carcinomata, though invasion of the renal veins by sarcoma is as common an event as in carcinoma.

TUMORS ARISING FROM EMBRYONAL INCLUSIONS. *Simple Teratoma.* *Dermoid Cysts* of the kidney have been reported, but are extremely rare. As stated above, the *Fibroma*, *Lipoma* and *Leiomyoma* may be explained as heterotopic inclusions of capsular anlage. Simple inclusions of striped muscle may also occur (*rhabdomyoma*). But by far the most common and important of the simple teratomata and one of the most common renal tumors is the *hypernephroma*, a growth consisting of tissue resembling adrenal structure (*struma lipomatodes aberrata renis*, "adrenal rest," etc.). The close relationship between the early stages of embryonic development of adrenal and kidney makes possible the occurrence of such inclusions. The adrenal may sometimes be entirely or for the greater part included beneath the kidney capsule. "Adrenal rests" usually appear as round, white or yellowish masses resembling adipose tissue, encapsulated and sharply outlined from the surrounding kidney tissue. They are usually located in the cortex just beneath the capsule but may occur in any portion, even in the medulla. Microscopically, they consist of a fine stroma containing a net-work of capillaries in the meshes of which cords or strands of cells resembling adrenal cells are present. These cells may be round, polygonal or even columnar, they contain fat and glycogen droplets, a great individual variation is seen, but on the whole the cells resemble those of the adrenal

cortex, particularly those of the glomerular zone, only rarely are they like those of the medulla. The nucleolus has a metachromatatic character, staining differently from the nucleus. Hypernephromas are rich in lecithin, in this respect resembling also adrenal tissue. The growths arising from them appear to be identical with those primary in the adrenals. Like these they may be benign or malignant. They show a tendency to penetrate early into the veins and to give rise to metastases. They show the same necrotic changes seen in the adrenal tumors, and like the latter often form pseudocysts filled with brownish pultaceous material, the only living portion of the growth being at the periphery. Giant cells similar to those in the adrenals are often present. No transition forms between renal tissue and these tumors are ever found. The close relationship of the cells to the capillaries, the tumor cells resting directly upon the endothelium, has led many writers to class these growths with the endotheliomata or peritheliomata. By other writers they are regarded as adenomata derived from the renal tubules. At present they are best classed as teratomata, the majority of authorities agreeing in considering their origin to be from embryonal anlage, either adrenal or from remains of the Wolffian body. Though the great majority of hypernephromas are benign, being found only at autopsy, they very frequently become malignant, giving rise to metastases, chiefly in the lungs. It cannot be denied that all of them have malignant potentialities.

Complex Teratomata.—The complex growths containing cartilage, bone, muscle and nerve tissue are to be classed in this group. While the origin of these interesting growths is not as yet definitely

ascertained they are clearly of teratoid nature. They may arise from Wolffian "rests" or from earlier embryonic structures. Clinically, they appear as sarcoma and are usually designated "*mixed sarcoma*," or "*embryonal adenosarcoma*." They occur nearly always in children and are to be regarded as congenital growths. Only rarely have they been found in adults. They may grow slowly or rapidly, the gross appearance is very varied owing to the many degenerative processes that may be present. Often they reach a very large size. They are usually sharply outlined from the kidney tissue which is pushed aside and through pressure becomes atrophied rather than being directly destroyed. The microscopical picture is very complicated. Granular structures resembling kidney tubules are found, between these a stroma made up of round or spindle cells, containing striped and unstriped muscle, islands of bone, cartilage or myxomatous tissue, ganglion cells or neuroglia. The presence of striped muscle forms one of the most striking features of these growths and they are frequently called *rhabdomyosarcomas*. The presence of the muscle is variously explained as derived from the Wolffian body or the primitive myotome, or as a metaplasia from unstriped muscle. The mixed character of the tumor has often led to the diagnosis of carcinoma. As true renal carcinoma or sarcoma is very rare in early life, it may be taken as a principle that the malignant renal growths of children are of the nature of malignant teratoma. Metastasis from these growths may occur early, usually into the lungs. They are more often of simple sarcomatous nature, and rarely show the mixed character of the primary.

SECONDARY GROWTHS OF THE KIDNEY.

—Both carcinoma and sarcoma may appear in the kidney as metastatic growths from primaries situated elsewhere in the body. Secondary carcinoma is often multiple, and forms round nodules in the cortex, most frequently in the glomeruli, the metastasis being hematogenous. The microscopical structure corresponds to that of the primary. Secondary sarcoma forms round nodules in the cortex, usually multiple, the number of secondaries being sometimes very great. Retrograde metastasis of either sarcoma or carcinoma into the kidney may occur through the renal veins from the inferior vena cava. In such cases the secondaries are most often found near the kidney pelvis.

DIAGNOSIS.—Renal growths often produce no symptoms at all. The most characteristic signs are the presence of a tumor in the right or left lateral regions displacing the colon forward and inward. Such a tumor may be caused by a growth of the adrenal, kidney, Wolffian body or perirenal tissues. The outward displacement of the colon is a rare exception. There may be fluctuation. When this is present aspiration for diagnostic purposes is indicated. It must be remembered that lipoma and myxoma may give fluctuation and yet yield no fluid on aspiration. A cystic tumor filled with brownish pultaceous material is indicative in the great majority of cases of hypernephroma. Of the urinary signs hematuria and the presence of bits of tumor tissue in the urinary sediment are the signs of most vital importance. In suspected cases the urine should be centrifugated, the sediment fixed on cover-glasses by the alcohol-ether method, stained with hematoxylin and eosin, and

examined for mitotic figures. The presence of numerous mitoses, particularly of atypical forms, may be taken as strong evidence of the existence of malignant growth of the urinary tract.

PROGNOSIS.—This depends upon the pathology of the growth. It is favorable in the case of the benign connective tissue tumors, the encapsulated adenomata, benign papilloma of the pelvis, the majority of hypernephromas, less favorable in the case of sarcoma and carcinoma without metastases or extension, wholly unfavorable in the case of the malignant teratomata and carcinoma and sarcoma with metastases. Secondary cancer and sarcoma of the kidney are likewise hopeless.

TREATMENT.—This is, of course, surgical. Modern pathology has, however, produced great modifications, and the successful treatment of renal growths depends largely upon their pathological nature. Surgical interference is especially indicated in the case of hypernephroma. Small growths of this nature may be resected. As hypernephromas were formerly classed to a great extent with the carcinomata or sarcomata, the prognosis in general of renal tumors has been greatly modified. In the case of sarcoma and carcinoma the lymph glands in the neighborhood of the kidney hilum are to be removed in connection with the entire organ.

A charter has been granted to the Bay County Medical Society, which was recently organized. The following officers were elected: V. L. Tupper, President; E. A. Hoyt, Vice-President; M. Gallagher, Secretary; C. H. Baker, Treasurer. All these are Bay City men.

ACUTE KIDNEY INFECTIONS.

THEODORE A. FELCH,
Ishpeming, Mich.

It may be well to state at the outset that this paper consists of a compilation of the writings of others, which I have been able to cull from different books and magazines, and to that extent expresses the recent thoughts upon this obscure subject. As the title indicates, we are not to consider those inflammations of the kidneys caused by irritant poisons as mercury, etc., perhaps not even those following exposure to cold and wet, although the manner in which nephritis is produced in these cases is not fully understood. Only those conditions directly or indirectly bacterial in origin will be considered. Between these direct and indirect effects it is at present impossible to discriminate; even when the organisms have been proved to pass through the kidneys, escaping with the urine, the role played by the organism itself cannot be sharply differentiated from that of the toxic products of its life activity.

In the infections of the kidney there may be involvement of the kidney substance proper (nephritis), of the mucous membrane of the pelvis of the kidney (pyelitis), or of the capsule and the peripheral portion (perinephritis).

We will deal with the first alone. For convenience a classification may be made into:—

1st. Primary infectious nephritis.

2nd. Acute nephritis secondary to an infectious disease.

It must be understood, however, that no attempt is made to draw a sharp line of distinction. In the first class may be grouped those cases in

which the kidneys are the seat of inflammatory changes, caused by micro-organisms carried by the blood current, whose point of entrance to the system cannot be definitely traced. Kertz observes that the invasion of the blood by disease germs may assume various clinical aspects. In one form the blood may become infected without an initial local effect, as in malaria and relapsing typhus. In another form there may be typical infection of the blood from a local point of invasion, as in anthrax and typhoid fever. The germs may be carried into the blood by the leucocytes, as in gonorrhœa and probably also in lepra, or swept into the lymph current, as in infection from strepto, and diplo-cocci, or penetrate through some vascular lesion, as in tuberculosis or plague. The invasion of the blood may be secondary to another infection, as in small-pox, measles or scarlet fever.

Many organisms have been found in these cases, most frequently streptococci and staphylococci, the former being sometimes present in enormous numbers in the kidney tissues. From a series of eleven cases, in which streptococci were found in the urine, Mannaberg succeeded in isolating an organism, which produced an acute hemorrhagic nephritis when injected into the circulation of the lower animals. The association of acute interstitial nephritis with acute infection suggests a microbic origin, but bacteriologic examination has, for the most part, proved negative. Thus, of twenty-four cases of diphtheria, six were sterile, in eleven the colon bacillus, in one the staphylococcus aureus, in five the streptococcus, in eight the diphtheria bacillus, and in one the bacillus *fœtidus*, were found. In five cases of scarlet fever the

colon bacillus was found in two, the streptococcus in three, and the staphylococcus in one. In eight cases of mixed infection of diphtheria with scarlet fever or measles the kidney was sterile in two, the streptococcus and colon bacillus being found in the others. Not much weight can be given to the colon bacillus in these cases upon post-mortem examination, and as for the other bacteria, they are found in the kidney in the same proportion in cases in which the lesions of acute interstitial nephritis were absent.

But the great majority of the cases of acute kidney infection will fall under the head of the second class, viz., acute nephritis secondary to an infectious disease. Any of the infectious processes which tend to the production of the general diseases or to the formation of metastatic foci, may result in inflammatory changes in the kidney, even when the original disease has been mild or abortive in character. Generally speaking, however, much depends upon the severity of the original infection. The cases of typhoid fever, small-pox, erysipelas-septicæmia, etc., in which acute nephritis develops, are usually very severe, and when a fatal termination occurs, the influence the nephritis has exerted in producing this result cannot be accurately weighed. In all of these infections, except scarlet fever and diphtheria, acute nephritis is an occasional complication and must be watched for and guarded against, but figures as to the relative frequency of its occurrence give no results of any special value. But in scarlet fever and diphtheria it presents itself with such frequency that statistics are of considerable interest. Thus in 4,343 cases of scarlatina recently reported in American and for-

eign literature, acute nephritis developed in 359, or 8.3 per cent. In only a portion of these cases was the proportion developing uræmic noted. From these figures it would appear that uræmia occurs in about 13 per cent. of the cases of scarlatinal nephritis, and that the mortality in the uræmic cases is over 50 per cent. How large a part nephritis plays in the fatal issue of scarlet fever may be inferred from the report of Jaeger, who found severe nephritis manifest, microscopically, in 21 out of 47 autopsies in scarlet fever cases, or 44.6 per cent.

The appearance of the kidney in scarlet fever varies with the stage of the disease. In patients that have died early the kidney presents very slight microscopic changes, but microscopically exhibits degeneration of the epithelium of the convoluted tubules. If death has occurred at the height of the disease, the kidney is usually enlarged, flaccid, and either pale or red from hemorrhages and congestion (the flaccid large white kidney and the flaccid large hemorrhagic kidney of Friedlander).

The most frequent type of nephritis in scarlet fever is that known as post-scarlatinal nephritis; this is, as a rule, a glomerulonephritis. In some cases interstitial changes are found, congestion of the vessels and fatty degeneration of the epithelium are present in practically all cases; glomerular lesions are, however, not a necessity, and were absent in a series of cases studied by Pearce (Hektoen). After diphtheria, nephritis is seen in about six per cent. of all cases, and is a most serious complication; out of 69 cases reported by Heinze, 48 died, nearly 70 per cent. Jaeger reports 28 cases of severe nephritis in 615 diphtheria autopsies, or 4.5 per cent., a striking contrast

to his figures in scarlet fever given above. The renal changes in diphtheria are not characteristic. Degenerative changes in the epithelium are always present, frequently with more or less pronounced alteration in the interstitial tissue (accumulations of plasma cells), and in the glomeruli. Glomerulonephritis is especially common in older children and in cases of prolonged duration. The lesions are not due to the bacteria, but to the toxic substances in the blood. The diphtheria bacillus may, however, be present in the kidney or culture (Hektoen).

The figures given above are apart from the transient albuminuria, which is seen in any of the severe infections, especially when accompanied by high temperature. In these cases there is present what has been described as acute parenchymatous degeneration of the kidney, due, undoubtedly, to toxins, altered products of metabolism and prolonged high temperature. This condition is the rule in typhoid and yellow fevers; is very common in scarlet fever, where it occurs in from 20 to 90 per cent. of all cases, according to various authors; in smallpox and diphtheria, and in severe cases of influenza, where the proportion ranges from 35 per cent. (Senator) to 85 per cent. (Brands). In the other infections it is less common, but by no means rare.

The conditions which predispose to the development of a secondary nephritis are varied and but little understood. Taking scarlet fever as an example, the percentage of cases complicated by nephritis varies enormously in different epidemics; in some it may be but two or three per cent., while in others it may be forty or fifty per cent, the average being probably between four and ten per cent. While it is most common after a severe

infection, it may follow a very slight one. The intensity of the eruption is no index, for it may occur where the eruption has been very limited or absent. Chilling of the surface may induce an attack, but in many cases this has not occurred. The too early use of solid foods is often responsible for the condition, and perhaps to greater care in this respect is due the decrease in the percentage of cases which some writers have noted in recent years.

As scarlatina and diphtheria, the most frequent causes of acute nephritis, are more prevalent among children, it follows naturally that the condition is seen more often among the young. It is worthy of mention that in twelve cases of acute nephritis following influenza, collected from the literature by Freeman, eight were under 18 years of age. However, no age is exempt.

The greater exposure to which adult males are subjected may account for the greater frequency with which they are attacked, but this would hardly apply to children, and with them also the males show a higher percentage of cases of renal involvement in many epidemics.

SURGERY OF THE KIDNEY IN TUBERCULAR CONDITIONS.

W. H. HAUGHEY,
Battle Creek, Mich.

Of the route by which the bacillus tuberculosis finds ingress to the kidney, I shall have but little to say; though personally I think it to be through the lymphatics. That it does occasionally find its way to and make its habitat in this organ, has been demonstrated many times. Fortunately it is unusual for both kidneys to be affected at the same time,

thus making it possible, where but one is involved, to remove it and frequently restore the patient to permanent health, or at least give an indefinite extension to his lease of life. But the object of this paper is more a study of the operation and its technique than it is one of pathology.

Two years ago, at the meeting of the American Medical Association at Atlantic City, the last day of the sessions and the last end of the last hour in the surgical section, as the chairman's gavel was about to announce the final adjournment to the dozen or fifteen faithful ones who had sat through the entire session, Dr. Howard A. Kelly, of Baltimore, Md., came hurrying in accompanied by two or three assistants, and asked permission to present to the section before its adjournment an interesting case and exhibit a pathological specimen illustrating his operation for removal of the kidney and ureter. His request being granted, the specimen was shown and proved to be a kidney and ureter entire, with section of bladder containing urethral implantation.

Dr. Kelly gave the following history: Patient, lady of about twenty-one or twenty-two years; complained of severe urethral irritation, with much pain on micturition; had been treated by several physicians with no relief. Dr. Kelly made a diagnosis of tuberculous kidney, and by catheterization of the ureters located all the trouble on one side, I think the left. At the operation which followed he not only removed the affected kidney, but the entire ureter, including a section of the urinary bladder surrounding its implantation, and closed the bladder with his double row of sutures.

He gave as his reasons for removing so much, a desire to take away all, or as much as possible of the diseased tissues, in order to more surely prevent return of the tubercular trouble. After the operation he was called to Boston and was absent from Baltimore something over three days. On his return he found his patient dead. The doctor stated that he regretted exceedingly the fact of his being called away at that particular time, as the autopsy showed that the suturing in the bladder had given away, allowing the urine to escape, inducing toxemia and death, which he thought might have been averted had he been there to reopen the wound and again suture the bladder.

The above case, reported as it was, the last thing before adjournment, received no discussion. I have always marveled at the temerity shown in this operation, and wondered why it was necessary to remove so much, in fact, why open the bladder at all? And above all, why leave the patient so long without a competent surgeon on the ground with full authority to reopen and repair any damage that might take place?

Through the kindness of Dr. T. E. Sands, I have been privileged to operate on two similar cases of tuberculous kidney. No. 1: Patient, a young married woman of about twenty-one or twenty-two years. Much emaciated. Dry yellow skin, with cilia pointing forward; was passing purulent urine, had mid-day chills, followed by fever and night sweats, irritable, peevish and fretful. Urethral meatus red, swollen and very sore, causing excruciating pain on micturition. Pus found only in urine from right ureter. Temperature at time of operation 103, pulse about 120. Kidney and ureter to

within about one inch of the bladder was removed. Patient made a perfect recovery, is still living and in excellent health.

Case No. 2: Patient, a lady about forty-two or forty-three years of age, presented practically the same symptoms as No. 1, with same redness, swelling and irritability of urethra. Trouble confined to one kidney, which, with most of the ureter, was removed. A slow but perfect recovery followed, and now after an elapse of about four years both patients are enjoying excellent health.

The epithelium of the ureters, bladder and urethra, being of the transitional variety and four layers in thickness, is so arranged as to *keep out* or *prevent* absorption. This is a wise provision of nature to prevent re-absorption of urine (an excrementitious substance) which comes in contact with or passes over these membranes. With this arrangement of epithelium, and the reason for it so evident, it becomes an interesting question to ask, what probability there is for the bacillus tuberculosis to pass through these four layers, and gain admission to the general systemic circulation? And is that probability sufficiently great to warrant the additional risk incurred by opening the bladder to remove another inch or two of the ureter, when the *bladder* and entire *urethra* (which of course cannot be removed) have been exposed to the action of the germs equally as much as the ureter itself?

In neither case reported by me was there soreness or inflammation inside the urethra or bladder, but only at the urethral meatus, which was red, swollen and irritable at the point where the mucous membrane unites with the skin, and this soreness extended out on the skin a short distance, but all cleared up and became well when patients recovered from their nephrectomies.

Discussion

HENEAGE GIBBES, DETROIT.

In regard to new growths in the kidney, I have had some interesting points in recent cases. We find it stated by good authorities that in some of the large tumors, involving the kidney, supra-renal tissue is sometimes found. This is undoubtedly the case, and I would go farther and say that some of these large tumors are entirely composed of supra-renal tissue. Several years ago, in 1883 I think, I discovered a number of accessory adrenals in the connective tissue surrounding the kidney, and some were of considerable size. From observations I have made on these accessory glands I am inclined to think that they are more prone to hypertrophic growth than the true supra-renal. These large growths involve and sometimes destroy the kidney; they are made up of cells in masses, which are polymorphous, and cells in a more or less tube-like form, and here the cells are distinctly columnar. This is practically the structure of the accessory adrenals, as they are not so highly differentiated as in the true organ. As civilization advances we may find it necessary to remove these accessory glands with the vermiform appendix in children as regularly as we have them vaccinated.

In regard to adenomata of the kidney, I think the term is somewhat loosely used. If we examine a growth and find it consists of large cells on a delicate basement membrane, with fine papillæ projecting into the cavities, also covered by the same cells, we may conclude that it is an adenoma gone back more or less to developmental conditions, especially as we find identical growths in the uterus. But when we find large cells piled up irregularly two or three or more deep on the basement membrane, without any papillary ingrowths, I think we are approaching perilously near carcinoma. In some cases I have traced these cells to those of the convoluted tubes; that is, I have done this as certainly as it is possible to. I have more than once read papers describing sarcoma of the kidney in the new-born and afterward obtained a portion of the growth for examination. Some of these cases are not sarcoma at all, but consist of a combination of the Wolffian body, with true kidney, and represent the appearance of the organ about the sixth or seventh week of intrauterine life. They consist of cysts with very delicate walls, having a beautiful arrangement of flat nucleated cells on a homogeneous basement membrane; in some, glomeruli can be made out, and in others there is some appearance of kidney tissue. They are examples of arrested

development. These cases have also been called carcinoma. Cystic change may commence in intra-uterine life and be continued after birth for many years, the kidney reaching an enormous size. In these cases there is no malignant growth and normal kidney tissue exists in the small amount of solid tissue between the numerous cysts.

E. B. SMITH, DETROIT.

The papers have been good and they have brought out some practical points. A point made by one of the speakers was one that I intended to make, but I also wish to make an additional point on the same line, and that is this, we have not only tuberculosis of one kidney, but are apt to have tuberculosis of the other, a malignancy of one kidney and a malignancy of the other; also with sepsis of one kidney we are very apt, if it becomes of chronic duration, to have sepsis of the other. Now, if that is so, then the question comes down to a practical one: We should make our diagnosis as quickly as possible, as early in the disease as possible, and an examination helps us make the diagnosis. In other diseases, diseases of the abdomen, or any lesions or any of the different manifestations in the abdomen, we open the abdomen and make an exploratory incision. Why not do it here and just the same? I have found when I had a case of stone in the kidney that I have been able to make, or rather to confirm my diagnosis of stone in the kidney, by placing the patient in a proper position and by double manipulation, by palpating with one of my hands upon the back and the other hand upon the abdomen, getting the kidney between the two hands and rotating it, or passing it from one hand to the other; the patient then if you talk to him will complain either at the time or afterwards of certain pains, reflex pains that you can get no other way. I think in two cases I have been able to confirm the diagnosis in this way.

I do not think we are quite particular enough about sounding the ureters. In two cases at St. Mary's Hospital I have been able to find pus by catheterizing the ureters, and I have been able to dilate the ureters in one of the cases; in another case I have been able to locate the obstruction, and finding it, relieve the conditions without an operation. I think we should catheterize the ureters and do it frequently; it is a procedure that is easily done, after you have done it once or twice with one or two different patients; sometimes you will find one that is very easy, and the next patient you attempt it upon you have to make the attempt two or three times before you are able to do it; any of us ought to be able to catheterize the ureters with a little practice, and

then you can tell what you have and which kidney is involved; after you have found pus at different times, and are unable to relieve the condition, you are justified in cutting down and making an exploratory operation, and if it is tuberculosis, a new growth, or a stone, then you can proceed with your operation—an extra peritoneal incision does no harm. I have been unable in one case to locate stone in the kidney by repeated punctures; I knew the stone was there, it was located for me, yet I was unable by using a small fine instrument to strike that stone. Upon the other hand, I had a case in which the calculus was in the urethra; my sound passed that calculus at three different sittings, and yet the operation revealed a calculus; it was fusiform in shape. We may dilate the urethra as large as a small finger to allow the urine to pass. I urge that we make examinations of the ureters, by catheter, and sounds, and if no calculus or stricture be found, would advise exploratory incision.

F. W. ROBBINS, DETROIT.

I want to make reference to a few points, and the first is the interesting fact that there may be localized tuberculosis in the genito-urinary organs without systemic infection, and this is nicely brought out where, after operation and removal of a tuberculous kidney, the patient seems to recover perfect health. We know where there is localized tuberculosis it must come through a general infection, but the general infection is probably localized on account of some local congestion or injury to some local part. Where the tuberculosis has settled in the testicle, and that has been removed, the body itself is able to take care of the few floating bacilli that may be existing in the blood. This being so, when we have a case of probable tuberculosis localized to parts that can be removed, it seems to me right that we should remove that local part, believing that the tuberculosis has not become general, and the localized infection being removed, the patient has a fair chance to recover permanent health.

Another case that I wanted to refer to in relation to stone in the kidney and the ureter was that of a case reported by Dr. Kelly a week or two ago, which is of interest on account of the fact that the stone was one-half within the bladder and one-half within the ureter; the stone was an inch and a half or two inches in length, protruding into the bladder, and was so large that he was not able with forceps to break it up, and the method that he employed was this: Using a knife with a blade nearly at a right angle to the shaft, he passed this knife into the vagina, to the cervix, and directly through into the bladder, cut-

ting down an inch and a half, and then removing the stone through the vaginal route, being able in that way to get at the ureter with perfect ease.

Another thing that I wish to refer to is the remarks made by Dr. Smith in speaking of ureteral catheterization: If he means to say it is easy in women, that is true; if he means to say that ureteral catheterization in a male is easy, he is mistaken; they can be catheterized in many cases, but there are cases where you cannot catheterize the male ureter. In cases where the prostate is enlarged, drawing the bladder up and forward, pulling the ureter down and forward, so that the ureter cannot be seen, a ureteral catheter cannot be entered.

P. M. HICKEY, DETROIT.

In listening to Dr. McGraw's interesting and valuable paper, I was particularly impressed with the one statement which the doctor made in regard to the use of the x-ray in the diagnosis of renal calculi, namely, the necessity of a proper interpretation of the skiagraph. This is a point which I think should be emphasized. Some discredit has been thrown upon the x-ray by different writers and every once in a while we hear some caustic remarks about the so-called fallacy of the x-ray. In those cases where I had the chance to investigate the cause of such remarks, I found that the fault was in the observer, who failed to appreciate the values of the shadows depicted. In work with the microscope, ophthalmoscope, spectroscope, or other instruments of precision, it is necessary that the observer master the technique of the instrument and acquire a certain experience before his opinion is of value. The same need of experience is necessary in the interpretation of what is seen with the fluoroscope or in the skiagraph. It is necessary to always bear in mind that when working with the x-ray that we are working with shadows and to constantly consider the conditions which may be present to cause such shadows. If this point is borne in mind. I think that there would be very little criticism and few remarks in regard to the fallacy of the x-ray.

With regard to the future value of the x-ray in the diagnosis of renal calculi, it seems very probable that the technique will be perfected and the corresponding results will be much more valuable. Some of the work which has been done by a few men in this country, both in the diagnosis of renal and biliary calculi, is certainly most promising.

J. H. CARSTENS, DETROIT.

I am glad Dr. Hickey mentioned that about the radiograph. We are often disappointed in these pictures, and perhaps it is the fault of the

men who handle the apparatus; they have not the practice. The thing is in the development stage, and probably in the course of time we will be able to do more with the pictures.

The paper of Dr. McGraw suggested a large number of points on the diagnosis that I wanted to mention. Some time ago I had the queerest kind of a case of stone in the kidney; a doctor brought the patient to me and said he had stone in the kidney; he had I don't know how many attacks, and it was the clearest kind of a case; the symptoms were there, pain in the testicles, and everything else, and so I proceeded to operate, but I could not find any stone; there wasn't any there. I followed it up; it was on the right side, until I came to a place where there was an enlargement, and on careful examination I finally found that that man had appendicitis. There had been an inflammation of the appendix, it had become adherent over the ureter and formed cicatricial tissue that had contracted, and with occasionally a spasmodic contraction, produced all the symptoms of stone in the kidney.

Sometime afterwards I had a case almost identically like it, but that time I was on the lookout; I was suspicious of it, and I found another case where the appendix had grown over and become adherent over the ureter. So it is something to bear in mind in stone in the kidneys, that sometimes we make mistakes. Sometime ago I had another case where I was sure I had a stone in the kidney. I had been written to by a doctor in Canada that a woman had stone in the kidney, and on investigation I thought she had stone in the kidney, but the radiograph did not show any; the woman was suffering a great deal and I made an exploratory operation, and what was worse in this case I could not find even the kidney. I cut down at the usual place and found upon going down further the rim of the pelvis, and what I found was a congenitally deformed kidney, a small irregular shaped body, and I removed it with a great deal of difficulty; the anatomical landmarks were gone. Somehow or other there was an accumulation of urine occasionally that produced the symptoms of nephritic colic. So the diagnosis is by no means easy, but still I think in these cases it is perfectly justifiable to do an exploratory operation, find whatever you can, and act accordingly. The diagnosis of kidney stone I think is difficult; we do not have very many cases in this country anyway, not so many as they have in England.

J. C. WILSON, FLINT.

I wish to say a word upon this subject, inasmuch as I have had some experience with patients who were not operated upon. I have two patients

in mind, and one happens to be my wife, who have passed pus at intervals from the kidney for several years. We have demonstrated the source from whence the pus comes, by catheterizing the ureters. Eminent surgeons in Detroit and other cities whom I called in consultation advised the removal of the kidney or operation for drainage. My wife, who is a very nervous and delicate woman, was so frightened and depressed when informed that the surgeons deemed an operation necessary, that we feared a fatal result, if we attempted it at that time. She was then 60 years old. She has passed pus at intervals since first attack, four years ago, often in such large quantities that fully one-fourth to one-third of the volume of urine voided at times would be pus. I wish to say to you that medical treatment has kept her alive, and most of the time in tolerably good health. Several remedies that are reputed to be helpful in such cases we tried, without apparent benefit, such, for instance, as utropin and carbonate of guaiacol. The remedies from which we imagined we derived the greatest good were the peptonoids with creosote, pepto-mang, iron, quinine, salol. One thing in the treatment of which I have been careful has been to choose those remedies that did not disagree with the stomach and destroy the appetite. Have persisted in this course of treatment, omitting at intervals of weeks and sometimes months, all medication, and then again returning to them when symptoms warned us of a recurrence of the disease. At these intervals the urine would show no pus. We think possibly the irritating cause is the presence of stone in pelvis of kidney. Whatever it may be, slight indispositions of health, such as "taking cold," brings on an attack. Case No. 2 is almost identical in history, progress and treatment in a woman over 50 years old. It is five years since first attack. She enjoys fairly good health; attends to her household and social duties, and suffers little or no inconvenience or pain from the disease. The foregoing experiences, which I might enlarge upon, with others, convince me that many cases operated upon by the surgeon and pronounced incurable, except through agency of the knife, would recover with less danger to life, by proper medication and nursing.

A word as to difficulty in diagnosing stone in the bladder in some exceptional cases. I have in mind one such illustration that occurred in the early years of my practice, over a third of a century ago, that baffled some of the brightest experts in lithotomy in this country at that time. The patient was governor of Michigan, whose home was at Flint. When he came under my care he was unable to void his urine without the aid of a catheter. In those days we used silver catheters al-

together, and in the use of one of these, three or four times per day, I occasionally struck what I pronounced a stone. To verify my diagnosis I had my patient visit Detroit, and called on Dr. Moses Gunn, who had been my preceptor in college as professor of surgery in University of Michigan, who, after thorough examination and sounding of bladder, to my great surprise and mortification, decided against me, and said, "Doctor, there is no stone there." Not being satisfied, I afterwards, in the course of three or four months, called Drs. Zina Pitcher, Henry Lyster and Prof. A. B. Palmer at different times, all of whom examined the patient, got history of the case, sounded the bladder with steel sound, and gave as their opinion "there is no stone there." Still clinging to my own opinion that there was a stone there, I persuaded my patient to call Dr. Charles A. Pope, of St. Louis, Mo., who at that time had more lithotomy operations to his credit than any surgeon in America. One hundred and ten cases, if I remember correctly. He came to Flint; arrived in the evening, and sounded the bladder, but lo and behold! he said, "*There is no stone there.*" He remained over night and made a second examination the following morning, with same result, "*no stone.*"

Imagine my predicament. I had said there was a stone, but at the times they made their examinations, I had no more success in reaching or striking it than they. But still I adhered to the belief that it was present, but sacculated in such way that it could not always be found.

Soon after Dr. Pope's visit, in emptying the bladder by catheter, I obtained a few scales of phos. of lime. These I at once forwarded to Dr. Willard Parker, of New York City (Prof. of Surgery in College of Physicians and Surgeons), accompanied by a letter giving history of case. He replied: "I feel a delicacy in expressing an opinion in a case I have not seen and examined, especially since such eminent men as Drs. Chas. A. Pope, Moses Gunn, Zina Pitcher and others have given an opinion against you, but, judging from your letter and the specimen sent me, I must say I think there *is a stone there.*"

We arranged to have him come to Flint and see the patient. He did so, and operated and removed a stone that weighed over two ounces, besides scooping and washing out a large quantity of scales that had been pocketed in the cul de sac, that concealed and held the stone. I relate this experience to illustrate the point, that it is not always wise, for experts in any department of medicine or surgery, to be too positive in their own opinion as to diagnosis and prognosis.

T. A. MCGRAW, DETROIT.

I have already had one say upon this subject. I am very much interested in the question of the pathology of tumors, which has been so ably presented; it is I think one of the things which has to be studied by careful examination in order for us to get at the real causal relations which produce tumor.

As regards tuberculosis of the kidney, which I was especially put down to discuss, the great point in all these cases of tuberculosis of the kidney is to diagnosticate them early, for this reason, that when a tuberculosis of the kidney occurs, it affects usually at first only one kidney, but afterwards involves the other kidney. That is a very peculiar thing when we come to think of it. Take, for instance, a general tuberculosis of the body, in tuberculosis of the lung we comparatively rarely find tuberculosis of the kidney as a secondary disease; I think that our experience will show that tuberculosis of the lungs is comparatively rarely associated with secondary tuberculosis of the kidneys, but a tuberculosis of one kidney sooner or later causes tuberculosis of the other kidney, and there comes in the question of how and why. If we say that in the tuberculosis of one kidney the bacilli is taken up into the blood and carried into the other, we have the problem before us, why in the other forms of tuberculosis it is not so carried?

So that in tuberculosis of the kidney we must assume one of two things—either that, as the disease goes on, the tuberculosis of the one kidney by nervous irritation causes a great tendency to tuberculosis of the other, or that both kidneys have some congenital malformation or weakness which predisposes them to the disease.

I believe the practical point is that we must learn to distinguish these cases early.

I have a young married lady under my charge who is suffering from a suppurating trouble of the kidneys, of both kidneys, I think—I examined the bladder carefully with a cystoscope and found around both ureters a field irritation. The rest of the bladder seemed to be sound. We have not been able to find any tubercular bacilli or calculi in the urine; the symptoms point to tuberculosis, but the microscope has not as yet confirmed it.

In those cases where both kidneys are affected Israel strongly advises not to operate. In some cases of operation it is not necessary to take out the whole kidney; Israel gives a striking example of that. The blood vessels of the kidney are so arranged that the upper and lower folds are absolutely separated one from the other; that is, they each have blood vessels running one to

the lower pole and one to the upper, and each with their own little series of capillaries and almost entirely distinct. Israel had a case where he found a shadowy mass in the upper pole of the kidney; he cut that pole out, and sewed some gauze with catgut on to the cut kidney, and left it, and the patient recovered and lived for some years. There is a case where you can resect one kidney and where you have positive reason for believing that the disease is limited to one pole or the other. Where one kidney is diseased and the tuberculosis has advanced there is only one thing to do; that is, take out the kidney; in the majority of cases, take out the whole kidney. I do not mean to say that the best thing in these cases is to limit our operation to one pole of the kidney, but I mean to say it can be done and done successfully if you are positive that the disease is limited to one pole, but in the majority of cases we have to take out, of course, the whole kidney.

W. H. HAUGHEY, BATTLE CREEK.

I feel thankful for the amount of discussion that has been aimed at my paper; I felt particularly gratified in hearing Dr. McGraw handle it as ably as he did in bringing out the point that I hinted at of a single infection, at least at first.

I wish to call attention to the fact that in my two cases the operation was done soon enough, at least so that the patients have recovered, and before the other kidney was involved.

It is unfortunate, but none the less true, that we are very seldom, or not always at least, favored with an opportunity of getting at these patients soon enough to make out the diagnosis early enough to operate. A person cannot get along without both kidneys very well, and an operation to remove both would be out of the question.

The catheterization of the ureters I have found somewhat difficult; by persistence, however, we can accomplish it in the female, nearly always, and it is a valuable measure in the diagnosis. In elderly patients, such as these reported by the last speaker, I hardly think I would recommend a very severe operation, or the removal of a kidney if the disease had gone on quite awhile, as it usually does, in these elderly people. They are timid about an operation, or they hold off until the thing has gone too far for operation. And where the trouble only torments, but is not dangerous to life, it would be manifestly wrong to operate.

The last case reported was one where the diagnosis of the doctor was right, and I congrat-

ulate him upon his diagnosis of stone and proving later on that he was correct.

The point I was in hopes would be discussed more in my paper was one that has received no attention whatever, and that is whether there is much liability of this infection spreading out and becoming general systemic tuberculosis through the ureter, if a portion of it is left. I myself think that the danger is absolutely nil, and from the fact that I cannot find that Dr. Kelly advocates the removal of a section of the bladder for that particular trouble any more, I believe that he must have abandoned it himself, and I hope he has.

The Clinton County Medical Society, recently organized, held a meeting on October 2nd at St. Johns, at which Dr. Angus McLean, Detroit, read a paper on "Surgical Treatment of the Biliary Passages."

THE JOURNAL records the program of the first meeting, since organization, of the Mecosta County Medical Society:

PROGRAM.

Demonstration of the methods of using the X-Ray for Diagnostic and Therapeutic purposes; discussion of its effect in Carcinoma, and exhibition of patients.

W. T. DODGE, M. D., Big Rapids.

Discussion of the effects of the X-Ray in Tuberculosis and presentation of case.

L. S. GRISWOLD, M. D., Big Rapids.

Treatment of compound fractures of the leg with report of cases.

G. VAN AMBER BROWN, M. D.,
McBain, Mich.

Secretary of Missaukee County Medical Society.

Pelvic Abscess.

F. W. NOBLE, M. D., Remus.

The Microscopical Diagnosis of Tuberculosis with exhibition of slides under the microscope.

A. A. SPOOR, M. D., Big Rapids.

BOOKS RECEIVED.

General Paresis—Chase.

Transactions of the Missouri State Medical Society.

Medical communications of the Massachusetts State Medical Society.

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DETROIT, OCTOBER, 1902

THE PRESENT STATUS OF MEDICAL REGISTRATION IN MICHIGAN.

Some three years have passed since the present medical act has become law, and the Medical Registration Board was appointed to administer it. To some few, no doubt, the act itself and its administration have been more or less of a disappointment, but to the greater number of those interested the medical act and its administration have been at least a qualified success. There is no question but that among the latter class is included those who comprehend and appreciate the difficulties and conditions the medical board has had to meet and to contend with, and these latter are,

therefore, better qualified to give an intelligent and conservative estimate of the benefits accomplished by a medical act in which provision is made for its administration by a mixed board, whose membership is composed of adherents of the various schools of medicine recognized in this state.

To judge intelligently and fairly of the medical act and its administration, we must not lose sight of the conditions present in Michigan three years ago, about the date when the act came into operation.

For a period of sixteen years immediately prior to this date, Michigan had been legally infected with an act entitled, "An Act to Promote Public Health," passed by the Legislature of 1883, under

which holders of fraudulent diplomas, and unqualified and disreputable practitioners generally, were not only able to flourish, but under which they were able also to assume the qualifications of legal medical registration, and as a natural sequence were credited by a credulous public with a degree of reputability to which they were not entitled. In one county alone in this state over three hundred of these fraudulent registrations were made. So extremely farcical was the medical act of 1883, and the provision for its administration, that even the buying of a fraudulent diploma was an unnecessary expense, for scores of registrations, so-called, were made upon false affidavits, the affiants choosing the college most suited to their various tastes or environment as a basis for their illegal registration. As a natural outcome of this semi-legalized condition, diploma mills started up in neighboring states, and not only prospered, but also assumed the offensive in medical legislation.

Under the circumstances as noted above the framers of the present medical act had no easy problem to solve in attempting medical legislation, and it was necessary for them to take into consideration existing conditions, public policy and popular prejudice. Various interests as well as various schools of practice had to be harmonized. Opposition from within as well as from without the medical profession had to be met and pacified. The proposed act had to remedy the evil of former discredited medical legislation. The profession had for some thirty years been endeavoring to obtain fair and reasonable medical legislation from the state and had failed to obtain anything further than the discredited '83 act. On account

of the conflicting interests involved and organized opposition, it was not possible to obtain at that time a perfect medical act, and the authors of the Chandler Medical Bill did not attempt the impossible, otherwise the '83 act would still have been in existence, and the notorious Armstrong schools would still be flourishing.

The medical act of 1899 has fulfilled exactly the expectations of its authors. It has rid the state and society of hundreds of fraudulent and incompetent practitioners, and has made the practice of the unqualified extremely precarious and unprofitable, at the best, wherever attempted. It has raised the standard of qualification for graduation at colleges not only in Michigan, but in other states its influence in this direction has been felt and favorably commented upon. In the matter of organization and records it has rendered order out of chaos. The inquiries and absolute exactness of records to meet possible legal suits in hundreds of rejections is a labor that can hardly be appreciated. In dozens of cases it was necessary to give weeks of labor to single cases. It has administered the act equitably in those cases of worthy and reputable practitioners who had bona-fide moral claims to consideration, and has knowingly done injustice to no one. In place of hundreds of unqualified, and in many instances fraudulent practitioners, coming into Michigan yearly and registering, no one at the present date receives a certificate entitling him to registration unless possessed of qualifications of unquestionable standard. The present medical act has fulfilled the conditions for which it was created, and has demonstrated to the legislature and the people its usefulness as a

legitimate and useful measure for the protection of the public; and finally it has withstood all attacks made against its constitutionality in the Supreme and other courts of this state.

The Chandler Medical Act covers about the same ground that the first medical acts did, among others, in the states of Illinois, Ohio, Wisconsin and Indiana. These states quoted have recently advanced to more perfect medical legislation, and the time has now come when Michigan should also advance. The history of medical legislation shows the utility of advancing slowly but surely, of establishing a moderate medical act and amending it from time to time until model legislation has been attained. In the meantime the people have not only been educated to the advantages of state regulation of the practice of medicine, but the profession has also been benefited by this policy of moderation and experience.

There is undoubtedly a strong and ever-growing opinion among the intelligent public and the profession at this time for a higher standard of medical qualification for license in this state, and recognizing this opinion it is the intention of the State Board of Registration in Medicine to ask for amendments to the present medical act at the coming meeting of the Legislature, having in view not only the elevation of the standard, but also the uniformity of the act in connection with the medical acts of some of the better states. The State Medical Society passed upon these proposed amendments (see report of Committee on Legislation, page 84) at its Port Huron meeting in June last. If each county medical society throughout the state would also endorse and recommend these

proposed amendments, the task of passing them through the Legislature would be comparatively easy.

THE REORGANIZATION OF THE AMERICAN MEDICAL ASSO- CIATION AND RECIPROC- ITY FOR THE LICENSE TO PRACTICE MED- ICINE.

After Dr. Wyeth, President of the American Medical Association for the year 1901-02, declared at Saratoga that inter-state comity for the license to practice medicine was second in importance only to the reorganization of the American Medical Association, we may well point out in what way inter-state reciprocity for the license to practice medicine may be helped along by the reorganization of the American Medical Association. The vital connection between the two movements and its mutual helpfulness can be understood with little difficulty. In order to attain anything of importance for the welfare of the public and the profession, it must be reached by organized efforts. The reorganization of the American Medical Association means in reality an organization of the medical profession of the country. It is only natural that an organization of physicians will first of all consider the condition on which the very existence of a medical profession is based. The physician's life-purpose is to practice medicine. In order to practice medicine he must have patients. The American physician should have the possibility to respond to his duty in any part of his country. That this should be the case is a trite remark. Unfortunately, however, it is not the case. One

state excludes practitioners of other states sometimes without any reason whatever. The organized profession of the country can easily exert its combined influence with a decidedly certain outlook of success towards the establishment of sound conditions. These will exist:

First: When unjustified discrimination against well-qualified practitioners is done away with.

Second. When conditions, which justify discrimination against a state, are changed in this state.

That county, state and national organizations must work together for this purpose is apparent; that they will work together should not be doubted.

EMIL AMBERG.

RECIPROCITY AMONG THE SEVERAL STATE MEDICAL SOCIETIES.

When a Presbyterian moves from Pennsylvania to Michigan he does not lose his membership in the Presbyterian Church. A certificate of good standing by his old is presented to the new church, and special membership is uninterrupted. The same method prevails in many fraternal orders and in all churches. Removal from one state to another calls for no resignation from the one state and election by the other. Why should a different custom prevail among the several State Medical Societies?

From 1819 to 1851 Michigan dismissed its members to other State Medical Societies by a certificate of good standing, and accepted those bringing similar certificates from other State Societies. On entering upon the second stage of its evolution this custom was

discontinued and has not been resumed. On entering upon the fourth stage of evolution it has placed in its organic law a provision by which it offers to establish such reciprocity with any State Medical Society having equivalent standards of membership. Its officers are directed to communicate this offer to such societies, and we may confidently hope the custom may finally include the entire United States.

It should be the custom that once a member of a State Medical Society always a member, no matter how many changes in state residence are made—so long as the individual meets his obligations.

The value of such reciprocity to professional organization is self-evident. A bank note passing current in Michigan is good, but one current in each of the other states is better. So membership in the Michigan State Medical Society is good, but if this carried a practical membership in every other State Society it would have its value enhanced.

At this time when states are seeking to render membership more attractive this element is worthy of serious consideration. Which states will be the first to grasp this hand of broader fellowship extended by the Michigan State Medical Society?

ON THE ETIOLOGY OF TUBERCULOSIS.

That the etiology of tuberculosis is to be sought for elsewhere than in the biology of the tubercle bacillus alone is becoming more and more a scientific conviction.

For nearly twenty years the best efforts of many of the best minds of the

laboratory world have been directed toward the isolation of a "specific" from culture products; and the result, while of infinite value in one way and another to our knowledge of the subject, has been, we must admit, a failure.

Consumption means more than the development and growth of a micro-organism in the body. Apparently there is a "pretuberculous" and fundamental error in metabolism, which, so far at least, has eluded search, and still remains the terra incognita of the scientific "path finder."

It is hard to abandon idols, and at the end of such a long and diligent, though fruitless, search after anti-toxins and immunizing sera, it is not a little humiliating to be forced to acknowledge defeat and to confess that in the care of phthisis we are scarcely advanced beyond where Hippocrates left us.

To be sure, we still believe, and with good reason, that the tubercle bacillus is *one* of the essential factors without which the clinical picture of phthisis is impossible. What we have learned is that it is not the *only* essential, and that the most difficult problem in the etiology of consumption is yet to be solved. There is no doubt that this problem will be manfully grappled, and in the end successfully solved, perhaps suddenly, like the tremendous discovery which Koch made; more likely, however, by the slow, laborious process of piecing together the fragmentary observations of studious minds in all parts of the world. There is, after all, something of keen enjoyment in the thought that the privilege of this and numerous other great discoveries, vital to the welfare of the race, is shared by even the most humble and obscure, as well as the great and renowned,

in the medical profession. The thought should be a stimulus to careful, honest and intelligent observation. In the routine clinical practice no less than in the completely equipped laboratory, men should "read, mark, learn and inwardly digest" what is before them, each gathering data of information from the resourceful school of experience, and each should be not only willing but zealous to add his knowledge thus gained, however insignificant he may deem it, to the general fund, for to this general fund in all human probability we must look for the means of solving the still obscure problem of the etiology of tuberculosis, than which no more important subject is before the world.

HERBERT M. KING.

THERAPEUTICS OF THE X-RAYS.

At this time so much is being said and written regarding the application of the Roentgen rays in the treatment of disease, such as the various forms of malignant tumors and a great variety of the chronic and intractable cutaneous lesions, it might be of advantage to review the work that has been done and to see if the facts bear out the optimistic opinions we have heard on all sides. That it is of great value we think no one will deny, but that it is a universal cure for all forms of malignant disease is a mistake that should be corrected. That it will relieve the pain in almost all cases is a great boon to the sufferer, and, if it did nothing more, it would still be a source of great satisfaction to the patient, as well as to the physician. In many cases it seems to hold the disease in check, while in many others a permanent cure seems to be effected. Of course it is ridiculous to expect a cure of an advanced case of osteo-

sarcoma, and in fact in all of the sarcomas it is likely to prove satisfactory only so far as to give temporary relief. On the other hand, with the carcinoma and epithelioma, when taken before the case has advanced too far and given careful treatment, there will result a fair percentage of cures.

Better results will be attained in the treatment of the chronic diseases of the skin. In lupus, psoriasis, acne, and many of the chronic eczemas the result is satisfactory, a large percentage of the cases making an apparently complete recovery.

Of course it will be some time before we shall be able to state with a definite certainty that cures are permanent. The whole treatment is as yet in the experimental stage, and time alone will prove their permanency. We believe that careful work along these lines will result in a larger percentage of cures than have been attained by other therapeutic means, and will prove an inestimable boon to many sufferers.

In order to give satisfactory treatment a physician should make a study of electro-therapeutics. Simply because he has an apparatus and can light a Crook's tube is no indication that he can treat the cases satisfactorily. Everything else being equal, the physician best equipped in the knowledge of electro-therapeutics will undoubtedly attain the best results.

P. M. CAMPBELL, Detroit.

The first meeting of the Wayne County Branch of the Michigan State Medical Society, viz., of the Wayne County Medical Society, took place at the Hotel Normandie on September 4, 1902, and was well attended. The paper of the evening was read by Dr. Emil Amberg, of Detroit. Subject, "The Surgical Anatomy of the Middle Ear a Factor in Favor of Early Interference in Suppurative Affections of the Same," with demonstrations. The essayist presented a number of specimens, etc., illustrating the topic under discussion."

Reports of Committees

REPORT OF COMMITTEE ON LEGISLATION, MICHIGAN STATE MEDICAL SOCIETY, AT THE ANNUAL MEETING, PORT HURON, JUNE 27, 1902.

Since the report which was tabled at last year's meeting was brought before the Society some changes have been thought necessary. Therefore the committee submits the following suggestions in the matter of amendments to the present medical act, which covers and adds to the report of 1901.

(1) That section 1 be amended by substituting for the physio-medical member on the board an additional homœopathic member, making the school composition of the board as follows: Regulars, 5; Homœopaths, 3; Eclectics, 2; total, 10. As the physio-medical school is represented in Michigan by less than twenty registered practitioners, the necessity for representation on the board of this school does not exist. The homœopaths have not asked for additional representation on the board, and have lived up to the letter and spirit of the agreement made with the committee in 1899, but as they number in registered physicians three times the combined strength of the eclectics and physio-medics in this state, it is only fair that they should have an additional board member.

(2) That section 3, subdivision 3, be amended by requiring all candidates for examination before the board to be graduates in good standing of legally authorized and reputable medical colleges, approved and listed by the medical board, having a course of not less than four years of six months each, no two courses to be taken in the same year. And also that the candidate, in addition to the above medical qualifications, present evidence to the board of graduation from an approved high school, academy, college or university, previous to the attendance in such listed and approved medical colleges. Graduates in Arts, Science, Philosophy, Dentistry and Pharmacy of approved colleges may, however, be credited with one full course of study by approved colleges provided they show attendance in their combined courses in accordance with the schedule of Minimum Requirements of Medical Education hereafter quoted.

MINIMUM STANDARD OF EDUCATION

Required under Reciprocity Qualification No. 1.

LECTURES AND TEACHING.

30 hours in Electro-Therapeutics.
160 hours in Physiology.

- 100 hours in Pathology.
- 80 hours in Histology.
- 200 hours in Practice of Medicine.
- 100 hours in Obstetrics.
- 60 hours in Bacteriology.
- 15 hours in Medical Jurisprudence.
- 160 hours in Anatomy.
- 160 hours in Chemistry and Toxicology.
- 130 hours in Therapeutics.
- 30 hours in Hygiene.
- 200 hours in Surgery.
- 30 hours of Gynecology.
- 48 hours in Diseases of the Eye and Ear.
- 100 hours in Pharmacology.

LABORATORY WORK AND DEMONSTRATIONS.

- 240 hours in Anatomy.
- 120 hours in Pathology.
- 100 hours in Histology.
- 120 hours in Bacteriology.
- 36 hours in Obstetrics.
- 60 hours in Eye and Ear.
- 180 hours in Physiology.
- 180 hours in Chemistry and Toxicology.
- 200 hours in Surgery.
- 120 hours in Practice.
- 32 hours in Dermatology.
- 120 hours in Gynecology.

MINIMUM STANDARD OF PRELIMINARY EDUCATION

Required under Reciprocity Qualification No. 1.

A certificate of graduation from an approved and reputable high school, academy, college, or university with the following minimum requirements:

GROUP I.—ENGLISH LANGUAGE.

- (a) English Grammar.
- (b) Rhetoric and Composition.

GROUP II.—HISTORY.

(a) History of the United States, as presented in McLaughlin's History of the American Nation, Johnston's History of the United States, or equivalent text.

(b) General History, as presented in Myer's General History, or equivalent text. Greek and Roman History or English History will be accepted as a substitute for General History.

GROUP III.—MATHEMATICS.

(a) Algebra—Fundamental rules, Fractions, Simple Equations, Involution and Evolution, the Calculus of Radicals and Quadratic Equations, as given in Onley's Complete School Algebra, or Beman and Smith's Elements of Algebra, or some equivalent text.

(b) Geometry—Plane Geometry as given in Beman and Smith's Plane and Solid Geometry, or equivalent text.

(c) Plane Trigonometry, as given in Wentworth's Trigonometry, or equivalent text.

GROUP IV.—NATURAL SCIENCES.

(a) Physics, as presented in Carhart and Chute's Elements of Physics, or an equivalent text.

(b) General Biology, or Botany and Zoology, as presented in Sedwick and Wilson's General Biology, or Spaulding's Introduction to Botany and Kingsley's Comparative Zoology. These courses will be accepted only when accompanied by laboratory work.

(c) Chemistry, as presented in Freer's Elementary Chemistry, or an equivalent amount of work in Remsen's Introduction to the Study of Chemistry.

That a committee be appointed by the president to review the above suggested standard of medical and preliminary education who shall report at this meeting, and the committee would suggest the following as members of such committee: A. W. Alvord, Battle Creek; H. B. Landon, Bay City; V. C. Vaughan, Ann Arbor; H. O. Walker, Detroit; Wm. Fuller, Grand Rapids; Hal C. Wyman, Detroit; D. B. Cornell, Saginaw.

(3) That, under section 3, subdivision 4 of the reciprocity clause of the medical act, Qualifications No. 1 and No. 2, adopted by the American Confederation of Reciprocating Examining and Licensing Medical Boards, be adopted. *Provided*, That the regulations governing the exchange of certificates under Qualification No. 1 shall be in harmony with the minimum requirements for preliminary and medical education itemized above.

QUALIFICATION NO. 1.

That a license or certificate of qualification of at least one year's date, based upon presentation of a satisfactory diploma, and an examination before a state board in specified branches of medicine and surgery, may be accepted at the discretion of a board in lieu of an examination, and as a basis upon which the license of a state may be issued.

QUALIFICATION NO. 2.

That a license or certificate of qualification issued by a State Board of Registration or Medical Examiners of at least one year's date, based upon presentation of a satisfactory diploma, and the recommendation of a State Board of Registration or Medical Examiners as to the reputability of the applicant, may be accepted at the discretion of a board in lieu of an examination and as a basis upon which the license of a state may be issued.

(4) That section 3, subdivision 5, or registration by "approved college" be struck out.

(5) That a section shall be added giving the board authority to cancel certificates obtained through fraud, and also the cancellation of certificates, in consequence of dishonest, immoral or unethical conduct.

B. D. HARISON,
Chairman.

(NOTE.—The committee, consisting of Drs. Alvord, Landon, Vaughan, H. O. Walker, Fuller, Wyman and Cornell, reviewed and approved the above quoted minimum standard of medical and preliminary education.—EDITOR.)

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE.

Report of Secretary, for eight months, from October 1, 1901, to June 1, 1902.

STATEMENT OF RECEIPTS.

October 1, 1901, to May 31, 1902, inclusive.

To balance Oct. 1, 1901.....	\$2,256 59
To fees received Approved College, Sec. 3, Sub. 5, 254.....	\$2,538 00
To fees received Examination, Sec. 3, Sub. 3, 23.....	230 00
To fees received Re-registration, Sec. 3, Sub. 1, 9.....	9 00
To fees received Lithographed Certificates, 223.....	223 00
To fees received Duplicate Certificates, 3.....	3 00
	<u>3,003 00</u>
	\$5,259 59

STATEMENT OF DISBURSEMENTS.

October 1, 1901, to May 31, 1902, inclusive.

By printing and stationery	\$611 78
By postage.....	100 00
By rent.....	93 75
By light.....	12 75
By porter.....	7 50
By charwoman	15 00
By clerk hire, committee. 9 10	
By attendant at examination	4 00
By express.....	15 96
By P. O. box.....	2 00
By office supplies and fixtures	11 62
By salary of secretary....	800 00

By clerk hire, office.....	422 39
By incidentals.....	2 00
	<u>\$2,107 85</u>
By Expenses of members	308 45
	<u>\$2,416 30</u>
	\$2,843 29
By returned fees.....	63 00
	<u>\$2,780 29</u>
Balance	\$2,780 29

RECAPITULATION.

To receipts Oct. 1, 1901, to June 1, 1902	\$3,003 00
To disbursements, Oct. 1, 1901, to June 1, 1902.....	\$2,416 30
To returned fees, Oct. 1, 1901, to June 1, 1902.....	63 00
	<u>2,479 30</u>
June 1, 1902, balance.....	\$ 523 70
Oct. 1, 1901, balance.....	<u>2,256 59</u>
	\$2,780 29
Total balance June 1, 1902..	\$2,780 29

I would refer you to page 14 of the Official List, under the heading Estimated Expenses 1901-1902, and would call your attention to the fact that the disbursements during the past eight months are well within the estimated expenses, and that the receipts are also up to the anticipated income of the board. Owing to the changes of membership on the board, and also the necessity of publishing an official list of certificate holders, the item of printing and stationery amounts to nearly four hundred dollars more than it ordinarily would have done provided these extra items had not been necessary.

REGISTRATIONS FROM APPROVED COLLEGES.

	No.
University of Michigan, Ann Arbor, Mich....	37
University of Michigan (Homœo.), Ann Arbor Mich.	2
Detroit College of Medicine, Detroit, Mich...	54
Rush Medical College, Chicago, Ill.....	11
Michigan College of Medicine and Surgery, Detroit, Mich.....	14
University of New York and Bellevue Hospital, New York, N. Y.....	5
Cleveland Homœopathic Medical College, Cleveland, O.....	2
Jefferson Medical College, Philadelphia, Pa...	4
University of Pennsylvania, Philadelphia, Pa...	3
The Bennett College of Eclectic Medicine and Surgery, Chicago, Ill.....	6
Hahneman Medical College and Hospital, Chicago, Ill.....	16
Medical Dept. Buffalo University, Buffalo, N. Y.....	4
Vanderbilt University, Nashville, Tenn.....	1
The Eclectic Medical College of the City of New York, New York, N. Y.....	1
College of Physicians and Surgeons, Chicago, Ill.	11

Eclectic Medical Institute, Cincinnati, O.	4
New York Homœopathic Medical College and Hospital, New York, N. Y.	1
Detroit Homœopathic Medical College, Detroit, Mich.	5
Cleveland Homœopathic Medical College, Cleveland, O.	1
Harvard University, Medical School, Boston, Mass.	2
Cornell University, Medical Dept., New York, N. Y.	1
Northwestern University Medical School, Chi- cago, Ill.	1
Chicago Homœopathic Medical College, Chi- cago, Ill.	3
American Missionary College, Battle Creek, Mich.	3
Grand Rapids Medical College, Grand Rapids, Mich.	15
Saginaw Valley Medical College, Saginaw, Mich.	40
Illinois Medical College, Chicago, Ill.	1
	248
Fees returned to.	5
Incomplete.	1
Total.	254

B. D. HARISON,

Secretary.

A meeting of the representatives of the Illinois, Wisconsin, Indiana and Michigan State Boards was held in Chicago, January 19th last, and the Confederation of Members of Reciprocating State Medical Examining and Licensing Boards was founded. At an adjourned meeting of the Confederation held in Chicago, May 20th last, the name of the Confederation was changed to the American Confederation of Reciprocating, Examining and Licensing Medical Boards.

The Confederation adopted a Constitution, of which the object is to establish reciprocal relations between the medical examining and licensing boards of the states, territories, districts and provinces of the United States; the purpose of which being that thoroughly worthy and well qualified physicians and surgeons who have been legally authorized to practice under the laws of one of said states, territories, districts or provinces, may be given authority and admitted to practice in any state, territory, district or province represented in this Confederation without a repetition of the tests of qualification to which such practitioner has submitted.

The Confederation also adopted the two following qualifications as a basis for the exchange of state certificates by boards who hold membership in the Confederation:

1. That a license or certificate of qualification of at least one year's date and based upon presentation of a satisfactory diploma, and an examination before a board in specified branches of medicine and surgery, may be accepted at the discretion of a board in lieu of an examination, and as a basis upon which the license of a state may be issued.

2. That a license or certificate of qualification issued by a State Board of Registration or Medical Examiners of at least one year's date, based upon presentation of a satisfactory diploma, and upon the recommendation of a State Board of Registration or Medical Examiners as to reputation of the applicant, may be accepted at the discretion of a board in lieu of an examination, and as a basis upon which the license of a state may be issued.

The Wisconsin and Indiana Boards expressed their desire to reciprocate fully with the Michigan Board, and with each other, under the terms of the above qualifications, and in order to make such reciprocity effective it will be necessary for the board to pass a resolution instructing its executive officers in the matter, and also to adopt forms in connection with such exchange of state certificates under both of the above quoted qualifications.

Owing to the fact that Illinois, Ohio, and several other states reciprocity laws provide for the recognition of certificates obtained only through examination before a state board, it is only possible for Michigan to exchange certificates under qualification No. 1 of the Confederation with such states. Resolutions covering such form of exchange of certificates should be adopted by this board, and forms in connection therewith.

Dr. Harison then calls attention to the almost unanimous opinion among those interested in the subject to the necessity and advisability of amending the present medical act at the next session of the legislature. The amendments contemplated and suggested would bring the act up to the standard adopted by some of the best states, such as New York and Ohio. Section 3, Subdivision 5, or the "approved college" section would be eliminated, and Section 3, Subdivision 3 would be amended by requiring all applicants for examination to be graduates of approved colleges, and a standard of preliminary education equal to that demanded by Ohio would be required.

Also a section should be added giving the board authority to cancel certificates obtained through fraud, and in consequence of immoral, dishonest, or unethical conduct.

REPORT OF THE COMMITTEE ON NATIONAL LEGISLATION, MICHIGAN STATE MEDICAL SOCIETY, AT ANNUAL MEETING, PORT HURON, JUNE 27, 1902.

For the second time the Michigan State Medical Society was represented at the conference of the Committee on National Legislation of the American Medical Association and Affiliated Societies, which took place in April, at Washington, D. C.

Many measures pending received the attention of the conference. I may be permitted to make special reference to a subject which was brought up by your delegate at the second meeting of the conference, in 1901, and which received thorough consideration at the third annual conference this year, viz.: the subject of interstate reciprocity for the license to practice medicine. As you know, considerable attention was paid to the subject at the meeting of the American Medical Association at Saratoga a few weeks ago. Dr. John Allan Wyeth said, in his presidential address: "Scarcely second in importance to a uniform scheme of reorganization is that of a uniform standard of requirements for the practice of medicine in the various states. It is of vital interest to the welfare of the profession that the question of reciprocity or interstate comity should be settled, so that without any sacrifice of the very highest requirements, a physician in practice in one state, having gone before a competent board, upon change of residence might be permitted to practice without being subjected to a second state examination, in the place of his adoption. The House of Delegates will, without doubt, act upon this matter in this session."

I may say that the House of Delegates appointed a Committee on Reciprocity consisting of five members. The renewed interest in the question of reciprocity is directly traceable to the efforts of your delegate before and after he was appointed. This interest has manifested itself not only in the American Medical Association, but also in other National, State and local societies. The medical literature of recent years, and especially of recent months, shows that the movement toward Interstate Reciprocity is growing and it has already borne good fruits.

The work of the Conference is in the interest of professional and public welfare, and it would be entirely in order for the Michigan State Medical Society, in my opinion, to pay the expenses of the delegate to Washington.

If I understand the proceedings of the House of Delegates at Saratoga correctly (see Journal of the American Medical Association, June 21st,

page 165), the following was adopted, * * * and an auxiliary committee to be composed of one member from each state and territorial society represented in this Association, to be appointed annually by the President of this Association upon the nomination of such state or territorial society, etc."

In conclusion, your committee recommends (1) that the Committee be continued and that the Michigan State Medical Society nominate such a committee of one and an alternate. (2) That the actual expenses of the delegate for the next meeting be borne by the society, the appropriated sum not to exceed \$60.

EMIL AMBERG,
Committee.

Obituary

It is with sorrow and with appreciation of the great loss to the medical profession of the state, that The Journal announces the death of Dr. Jerome M. Snook, of Kalamazoo, on July 8th, 1902. He was respected and honored by his fellow-men and esteemed by his professional brethren; his death will be keenly felt.

Dr. Snook's early life was passed in the east. In 1865 he came to Michigan and became a student at Kalamazoo College, where he was enrolled for three years, after which, for several years, he engaged in business life. During this time his medical studies began and in 1870 he became a pupil of Dr. H. O. Hitchcock; he later entered the medical department of the University of Michigan. After completing his work there he came back to Kalamazoo and almost continuously until the day of his death, practiced his profession in that city. His unceasing labors brought him into prominence both locally and throughout the state. In 1877 he was health officer of Kalamazoo; in 1889 was president of the Kalamazoo Academy of Medicine. During the past few years, Dr. Snook, realizing that his strenuous life was making inroads upon his health and vigor, retreated somewhat from his active duties, though almost until the day of his death his professional work occupied his time and attention.

Dr. Snook was a conspicuous example of the professional and financial success which comes to a life devoted strictly to its own duties. He was faithful and industrious to the end and with him it had been quietly and unostentatiously a governing rule to attend strictly and faithfully to his own business.

He was a good citizen and will be much missed, especially by his patients, to whom he greatly endeared himself.

CONSTITUTION AND BY-LAWS

OF THE

MICHIGAN STATE MEDICAL SOCIETY

ADOPTED AT PORT HURON, JUNE 26, 1902.

CONSTITUTION.

ARTICLE I.—NAME OF THE SOCIETY.

The name and title of this organization shall be the Michigan State Medical Society.

ARTICLE II.—PURPOSES OF THE SOCIETY.

The purpose of this Society shall be to federate and to bring into one compact organization the entire medical profession of the State of Michigan and to unite with similar Societies in other States to form the American Medical Association; with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine; so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES.

Component Societies shall consist of those County Medical Societies which hold charters from this Society.

ARTICLE IV.—COMPOSITION OF THE SOCIETY.

SECTION 1. This Society shall consist of Members, Delegates and Honorary Members.

SEC. 2. *Members.* The Members of this Society shall be the members of the Component County Medical Societies.

SEC. 3. *Delegates.* The Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective Component County Societies in the House of Delegates of this Society.

SEC. 4. *Honorary Members.* Honorary members shall be of two classes, resident and non-resident.

SEC. 5. Resident Honorary Members shall be chosen from those who have practiced medicine not less than *thirty* years and have been active members in good standing of this Society for at least *ten* years. They shall be nominated by the Council at any of its meetings and may be elected by the House of Delegates at the Annual Meeting following such nomination. They shall have all the privileges of the Society and receive all publications without the payment of dues. Not more than five Resident Honorary Members shall be elected at any one meeting.

SEC. 6. Any distinguished physician, not a resident of this State, may be elected an Honorary Member, provided he has been nominated by the Council at a previous meeting. Not more than two non-resident Honorary Members shall be elected at any one meeting.

ARTICLE V.—HOUSE OF DELEGATES.

The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1) delegates elected by the Component County Societies, and (2) *ex-officio*, the officers of the Society as defined in this Constitution.

ARTICLE VI.—SECTIONS AND DISTRICT SOCIETIES.

The House of Delegates may provide for a division of the scientific work of the Society into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of the Component County Societies.

ARTICLE VII.—SESSIONS AND MEETINGS.

SECTION 1. The Society shall hold an Annual Session during which there shall be held daily General Meetings, which shall be open to all registered members and delegates.

SEC. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII.—OFFICERS.

SECTION 1. The officers of this Society shall be a President, four Vice-Presidents, a Secretary, a Treasurer, and twelve Councilors.

SEC. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary and the Treasurer shall be elected by the Council at its Annual Meeting in January, and each shall hold his office for one year. The Councilors shall be elected for terms of six years each, being so divided that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

SEC. 3. The officers of this Society, not otherwise elected, shall be elected by the House of Delegates on the morning of the last day of the Annual Session; but no Delegate shall be eligible to any office named in the first section, except that of President or Councilor; and no person shall be elected to any such office who has not been a member of this Society for at least two years.

ARTICLE IX.—FUNDS AND EXPENSES.

SECTION 1. Funds for meeting the expenses of the Society shall be provided by a yearly fee of two dollars for each member, payable in advance to the Secretary of this Society by the Secretary of his Component County Society, and from the profits of its publications.

SEC. 2. Funds may be appropriated by the House of Delegates, subject to an approval by the Council, to defray the expenses of the Annual Sessions, for publication, and for such other purposes as will promote the welfare of the Society and the profession.

ARTICLE X.—RECIPROCITY OF MEMBERSHIP AMONG STATE SOCIETIES.

To broaden professional fellowship among the State Societies, the Michigan State Medical Society, by its President and Secretary, is ready to arrange with other State Medical Societies, having equal requirements, for the interchange of certificates of membership. Members removing from one of these States to another may thus avoid the formalities of re-election.

ARTICLE XI.—REFERENDUM.

The General Meeting of the Society may by a two-thirds vote order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the members of the Society for a final vote; and, if the persons voting shall comprise a majority of all the members registered at the session, a majority of such vote shall determine the question, and be binding upon the House of Delegates.

ARTICLE XII.—THE SEAL.

The Society shall have a common Seal, with power to break, to change or to renew the same at pleasure.

ARTICLE XIII.—AMENDMENTS.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been sent officially to each Component County Society at least four months before the session at which final action is taken.

BY-LAWS.

CHAPTER I.—MEMBERSHIP.

SECTION 1. All members of the Component County Societies, who are not in arrears for dues, shall be privileged to attend all meetings and to take part in all of the proceedings of the Annual Sessions, and shall be eligible to any office within the gift of the Society, except as otherwise provided. See Constitution, Art. VIII., Sec. 3.

SEC. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered County Society shall be prima facie evidence of his right to register at the Annual Session in the respective bodies of this Society.

SEC. 3. No person who is under sentence of suspension or expulsion from any Component Society of this Society, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Society; nor shall he be permitted to take part in any of its proceedings until such time as he has been relieved of such disability.

SEC. 4. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the Component Society of which he is a member. When his right to membership has been verified by reference to the roster of his Society he shall receive a badge, which shall be evidence of his right to all the privileges of membership at that Session. No member nor delegate shall take part in any of the proceedings of an Annual Session until he has complied with the provisions of this section.

CHAPTER II.—ANNUAL AND SPECIAL SESSIONS OF THE SOCIETY.

SECTION 1. The Society shall hold an Annual Session at such time and place as has been fixed at the preceding Annual Session.

SEC. 2. Special sessions of either the Society or the House of Delegates may be called by the President at his discretion or upon petition of twenty delegates.

CHAPTER III.—GENERAL MEETINGS.

SECTION 1. The General Meetings shall include all registered members and delegates, who shall have equal rights to participate in the proceedings and discussions, and to vote on pending questions. Each General Meeting shall be presided over by the President, or in his absence or disability, or by his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President and the annual orations, and the entire time of the Session, so far as may be, shall be devoted to papers and discussions relating to scientific medicine.

SEC. 2. The General Meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and to dispose of reports of the same; but any expense in connection therewith must first be concurred in by the Council.

SEC. 3. Except by special vote the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed.

SEC. 4. No address nor paper before the Society, except those of the President and orators, shall occupy more than fifteen minutes in its delivery; and no member shall speak longer than five minutes, or more than once on any subject.

SEC. 5. All papers read before the Society shall be its property. Each paper read shall be deposited immediately with the Secretary, but the author may also publish the same in any reputable journal not published in this State, provided the printed article bears the statement that it was "read before the Michigan State Medical Society."

CHAPTER IV.—HOUSE OF DELEGATES.

SECTION 1. Each Component County Society shall be entitled to send to the House of Delegates each year one delegate for every 50 members, and one for each major fraction thereof; but each County Society holding a charter from this Society, which has made its annual report as provided in this Constitution and By-Laws, shall be entitled to one delegate.

SEC. 2. The House of Delegates shall meet annually at the time and place of the Annual Session of the Society, and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Society, or with the meeting held for the address of the President and the annual orations, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But, if the business interests of the Society and

profession require, it may meet in advance, or remain in session after the final adjournment of the General Meeting.

SEC. 3. A majority of the registered delegates shall constitute a quorum. All of the meetings of the House of Delegates shall be open to members of the Society.

SEC. 4. It shall consider and advise as to the interests of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and to enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

SEC. 5. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that at least one of the delegates shall be elected each year.

SEC. 6. It shall divide the counties of the State into twelve Councilor Districts, corresponding to the twelve congressional districts according to the present apportionment, except that no county shall be sub-divided. When the best interest of the Society and the profession will be promoted thereby, it may organize in each a District Medical Society, to meet midway between the Annual Sessions of this Society. Members of the chartered County Societies, and no others, shall be members in such District Societies.

SEC. 7. It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

SEC. 8. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

SEC. 9. It shall present a summary of its proceedings to the last General Meeting of each Annual Session, and shall publish the same in the Journal of the Society.

SEC. 10. The House of Delegates shall provide for the division of the scientific work of the Society into appropriate Sections:

First—A Section on General Medicine.

Second—A Section on Surgery, Ophthalmology and Otology.

Third—A Section on Obstetrics and Gynecology.

CHAPTER V.—SECTIONS

SECTION 1. Sections shall hold their meetings at such times and in such places as shall not interfere with the General Meetings.

At each Annual Meeting a Chairman shall be chosen for each Section, to serve for one year. A Secretary shall be chosen every second year to serve for two years or till his successor is elected.

All papers, communications and matters of technical or professional nature shall be referred to the Section to which they pertain.

SEC. 2. Each Section shall annually choose a person whose duty it shall be to deliver an address before the next Annual General Session upon some subject pertaining to the department from which he is chosen.

CHAPTER VI.—ELECTION OF OFFICERS.

SECTION 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, unless otherwise provided.

SEC. 2. The President shall annually appoint a Nominating Committee of five from the House of Delegates, no two of whom shall be from the same Councilor District.

SEC. 3. The Nominating Committee shall nominate the first, second, third and fourth Vice-Presidents, the Councilors from the Districts in which there are vacancies, and the Representatives to the House of Delegates of the American Medical Association. In so far as possible, the Vice-Presidents shall be selected with especial reference to the promotion of the work of the Councilors in the three Districts nearest their respective residences.

SEC. 4. The report of the Nominating Committee and the election of the officers nominated shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the Session.

SEC. 5. Nothing in this article shall be construed to prevent additional nominations being made by members of the House of Delegates.

SEC. 6. Any member of the Society is eligible to the office of President, and nominations to this office may be made and seconded by any member of the same.

SEC. 7. The nominations for **President** shall be made the first order of miscellaneous business at the **General Meeting of the Society** on the first day of the Annual Session. Under no other circumstances shall a nomination or announcement of candidates be made in open session.

SEC. 8. A locked ballot box, for the reception of ballots, in the custody of the Committee on Nominations above mentioned, shall be placed in or about the hall where the General Meetings are held. One or more of the Committee on Nominations shall receive and deposit the ballots in the box, at the same time checking the name of the voter from the list of those entitled to vote, which

list shall include all the members of the Society registered at the meeting.

SEC. 9. The polls shall close at 12 o'clock, noon, on the last day of the Session. The result of the canvass shall be reported to the Society at the close of the General Meeting.

SEC. 10. The person receiving the largest number of votes on the presidential ticket shall be declared President.

SEC. 11. In the event of a tie vote on the presidential office the presiding officer shall submit the names of the candidates in alphabetical order to the viva voce vote of the meeting, and the one receiving the greatest number of votes shall be declared President.

SEC. 12. The Secretary and the Treasurer shall be elected by the Council at its meeting in January, as provided.

CHAPTER VII.—DUTIES OF OFFICERS.

SECTION 1. The President shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall, as far as practicable, visit by appointment the various sections of the State and assist the Councilors in building up the County Societies, and in making their work more practical and useful.

SEC. 2. The Vice-Presidents shall assist the President in the discharge of his duties, and the Council in the organization and nurture of County Societies.

SEC. 3. The Treasurer shall give bond for the trust reposed in him, as fixed by the Council. He shall demand and receive all funds due the Society, together with bequests and donations. He shall, under the direction of the Council, sell or lease any estate belonging to the Society, and execute the necessary papers; and shall, in general, subject to such direction, have the care and management of the fiscal affairs of the Society. He shall pay money out of the Treasury only on the written order of the Chairman of the Council, countersigned by the Secretary of the Society; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands to the Council.

SEC. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the programs for and attend all meetings of the Society and of the House of Delegates, keeping minutes of their respective proceedings in separate

record books. He shall be custodian of all record books and papers belonging to the Society, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the County Societies, and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall be Editor of the Journal of this Society, and shall employ such assistants as may be ordered by the Council. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled to give that amount of time to his duties which will permit of his becoming proficient, it is desirable that he should receive some compensation. The amount of his salary shall be fixed by the Council.

SEC. 5. The business of each Annual Session shall be completed by the officers who have served throughout the Session.

CHAPTER VIII.—COUNCIL.

SECTION 1. The Council shall hold daily meetings during the Annual Session of the Society and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. Three Councilors shall constitute a quorum for the transaction of business. The Council shall meet on the last day of the Annual Session of the Society for reorganization and for the outlining of the work for the ensuing year. At this meeting it shall elect a Chairman and a Secretary.

It shall hold a meeting in January of each year at a date and place fixed by the Chairman. It shall keep a permanent record of its proceedings, and through its Chairman make an annual report to the House of Delegates at such time as may be provided.

SEC. 2. Collectively the Council shall be the Board of Censors of the Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the Component Societies, or to this Society. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a County

Society, upon which an appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

SEC. 3. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such County Societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality, and shall continue these efforts until every reputable physician of the State has been brought under medical society influence.

SEC. 4. It shall upon application provide and issue charters to County Societies organized to conform to the spirit of this Constitution and By-Laws.

SEC. 5. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies. These societies, when organized and chartered, shall be entitled to all the privileges and representation provided herein for County Societies, until such counties may be organized separately.

SEC. 6. The Council shall provide and superintend the publication and distribution of all proceedings, transactions and memoirs of the Society, and shall have authority to appoint an editor and such assistants as it deems necessary. Further, to facilitate this work, it shall be the duty of the Secretaries of the Sections, during each Annual Session, or as soon thereafter as practicable, to deliver to the Editor, or his duly appointed agent, all such proceedings, reports, addresses, papers and other documents, as may have been ordered for publication. All money received by the Council, or its agents, resulting from the discharge of the duties assigned to them, must be paid to the Treasurer of the Society, and all orders on the Treasurer for disbursements of money in any way connected with the work of publication must be endorsed by the Chairman of the Council and countersigned by the Secretary of the Society. All matters of the Society pertaining to the expenditure of money for other purposes shall be referred, during the Annual Session, to the Council, who shall report upon the same within twelve hours, and if the House of Delegates orders the expenditure of money in connection with said report, the payment shall be made by the Treasurer as provided above. It shall be the further duty of the

Council to hold the official bond of the Treasurer for the faithful execution of his office, annually to audit and authenticate his accounts, and to present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Society during the year, and the amount of all other property belonging to the Society under its control, with such suggestions as it may deem necessary.

In the event of a vacancy in the office of the Secretary of the Society, or the Treasurer, the Chairman of the Council shall fill the vacancy ad interim until the next meeting of the Council.

SEC. 7. Each Councilor shall be organizer, peacemaker and censor for his District. He shall visit each county in his District at least once a year for the purpose of organizing component societies where none exist, inquiring into the condition of the profession, and for improving and increasing the zeal of the County Societies and their members. He shall make a report of his doings and of the condition of the profession of each county in his District to the Council at its Annual Meeting in January. The necessary traveling expenses, not to exceed twenty-five dollars annually, incurred by such Councilor in the line of duties herein imposed, may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expense in attending the Annual Session of the Society.

CHAPTER IX.—COMMITTEES.

SECTION 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Nominations.

A Committee on Arrangements.

SEC. 2. The Committee on Scientific Work shall consist of the President, who shall be the Chairman, the Secretary, and the Chairmen and Secretaries of the Sections. It shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instructions of the House of Delegates, or of the Society, or to the provisions of the Constitution and By-Laws. Thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Society as nearly as practicable.

SEC. 3. The Committee on Public Policy and Legislation shall consist of three members appointed by the President. Under the direction of

the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of the public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence of the profession to promote the general influence in local, state and national affairs and elections.

SEC. 4. The Committee on Nominations shall be appointed and perform its duties in accordance with the provisions of Chapter VI. of these By-Laws.

SEC. 5. The Committee on Arrangements shall consist of five members of the County Society in the territory in which the Annual Session is to be held, and shall be appointed by the President of the Society. It shall, by committees of its own selection, provide suitable accommodations for the meeting-place of the Society, the House of Delegates, the Council and the Sections, and shall have general charge of all the arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program.

CHAPTER X.—ASSESSMENTS AND EXPENDITURES.

SECTION 1. An assessment of **two** dollars per capita on the membership of the Component Societies is hereby made the annual dues of this Society. The Secretary of each County Society shall forward its assessment with a roster of all officers and members to the Secretary of this Society as soon after the annual meeting of the County Society as possible; not later than December 31st.

SEC. 2. Any County Society which fails to pay its assessment, or to make the reports required, on the date above stated, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Society or of the House of Delegates until such requirements have been met.

SEC. 3. All motions or resolutions appropriating money shall specify a definite amount for the purpose indicated, and must be approved by the Council.

CHAPTER XI.—RULES OF CONDUCT.

The principles set forth in the Code of Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XII.—RULES OF ORDER.

The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XIII.—COUNTY SOCIETIES.

SECTION 1. All County Societies now in affiliation with the State Society or those which may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, or with the code of ethics of the American Medical Association, shall, upon application to the Council, receive a charter and become a component part of this Society, subject to the conditions described in Sec. 4 of this Chapter. A roster of its officers and members and the annual dues of \$2 for each member must accompany the application.

SEC. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws a medical society shall be organized in every county in the State in which no component society exists.

SEC. 3. Charters shall be issued only upon approval of the Council, and shall be signed by the President and Secretary of this Society. The Council shall have authority to revoke the charter of any Component Society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws or the Code of Ethics of the American Medical Association.

SEC. 4. Only one Component Medical Society shall be chartered in any county. Where more than one County Society exists, friendly overture and concessions shall be made, with the aid of the Councilor for the District if necessary, and all of the members brought into one organization. In case of failure to unite an appeal may be made to the Council, which shall decide what action shall be taken.

SEC. 5. Each County Society shall judge of the qualifications of its own members; but, as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered physician who is practicing, or who will agree in writing over his own signature to practice, non-sectarian medicine only, and to sever all connections with sectarian colleges, societies and institutions, shall be entitled to membership. Before a charter is issued to any County Society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

SEC. 6. Any physician who may feel aggrieved by the action of the Society of his County in refusing him membership, or in suspending or expelling him, shall have the right of appeal to the Council.

SEC. 7. In hearing appeals the Councilor or the Council may admit oral or written evidence as in his or its judgment will best and most fairly pre-

sent the facts. Efforts at conciliation and compromise shall, however, precede all such hearings.

SEC. 8. When a member in good standing in a Component Society moves to another county in this State, his name, upon request, shall be transferred without cost to the roster of the County Society into whose jurisdiction he moves.

SEC. 9. A physician living near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

SEC. 10. Each County Society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every qualified physician in the county.

SEC. 11. At the first meeting after JANUARY 1ST, due notice having been given, each County Society shall elect annually a delegate or delegates to represent it in the House of Delegates of this Society in the proportion of one delegate to each FIFTY members or major fraction thereof (see By-Laws, Chapter IV., Sec. 1.) The Secretary of the County Society shall immediately send the list of its delegates to the Secretary of this Society.

SEC. 12. The Secretary of each County Society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall annually furnish an official report containing such information, upon blanks supplied him for the purpose, to the Councilor of his District by the **first day of January**. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his report shall be certain to account for every physician who has lived in the county during the year.

CHAPTER XIV.—AMENDMENTS.

These By-Laws may be amended at any Annual Session by a majority vote of all the Delegates present at that Session after the amendment has laid upon the table for one day.

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Original Articles

OPTIMISM AND PESSIMISM IN MEDICAL PRACTICE.

DAVID INGLIS,
Detroit.

Some years ago a surgical friend of mine made the cheering remark to me: "You neurologists see a lot of very interesting cases, but you can do nothing for them."

My reply was that if I did not feel that, on an average, I could secure as good results with my patients as my surgical friend was able to secure with his, I would at once take in my shingle and go into the life insurance business.

Again, Diller, of Philadelphia, recently wrote a very readable paper on this singular title: "What is the use of making a diagnosis in nervous diseases, since nothing can be done anyway?" And the remarkable part of his paper was that he found excellent reasons for trying to make a diagnosis, but did not deem it

worth while to dispute the pessimistic summing up of the curability of nervous diseases.

I quote these remarks because I think they typify the attitude of mind held by, not only the great majority of surgeons, but by very many physicians, in regard to the hopelessness of treatment in cases of nervous disease. This has been my reason for taking for my subject to-night, "The Prognosis of Nervous Diseases."

Within the limits of the paper it will, of course, be impossible to take up this subject in all of its possible applications, but it seems to me that it may be of service to us, as physicians—and through us to our patients—if we consider some of the phases of this question which appeal to men who are in general practice.

It is to the general practitioner that almost all cases of nervous diseases apply, at the beginning of their sickness, and it is self-evident that upon the attitude of the general practitioner will depend, to no small degree, the future of the patient.

If this paper is to be of any value it will be because it will, to some extent, controvert the pessimistic positions which were implied in the above curious illustrations of common attitude of mind held by many physicians in regard to the prognosis of nervous diseases. In all seriousness, I believe that such a pessimistic attitude is unwarranted by the facts and that, on the contrary, in the treatment of many forms of nervous disease we have valid grounds for taking a hopeful view as regards the future of the patient and, consequently, for undertaking his treatment with that courage and determination and fixity of purpose which is necessary to success in the treatment of any form of disease.

When we are considering the prognosis of any case, the future of the patient presents itself to us in more than one way. Sometimes the question is simply, "Will the patient live?"; very often the question is, "If he lives will life be a desirable thing to him?" and, in very many instances, the important question is, "To what extent can the patient be restored to a useful and happy life, or to what limitations in his enjoyment and activities must he be prepared to accommodate himself?" The function of the physician is by no means confined to the bare problem of keeping a man alive; it extends much further. It is our province to endeavor to restore men to the most useful and comfortable existence possible to them.

Nothing is more evident, in the study of various forms of disease, than the fact that nature has so ordained it that almost every organ in the body is capable of adjusting itself to very profound changes, and doing so successfully and for long periods of time, providing only that time

be allowed for the adjustment. For instance: the heart is liable to stop suddenly, not alone from some organic affection of the organ, but from sudden alterations in the innervation of the heart, or from a clot of blood forming in it, or from sudden changes in the blood pressure, and yet every one of us has had abundant opportunity to know that, in organic disease of the heart, sudden death is not the rule, but quite the contrary; that it is exceedingly difficult for a man with an organic heart disease to die.

I well remember a patient of mine, who was referred to me by my good friend, Dr. Heaton, who was retiring from practice at that time. He said to me, "Doctor, she has a badly diseased heart, but I confess that I am unable to tell you just what valves are affected." So the doctor and I auscultated with great care and frequency and after every consultation acknowledged ourselves completely baffled to make out what the various murmurs meant. I then took charge of the old lady, and for a period of many years used to study that heart of hers. She became quite interested in the matter herself and told me that, when she died, she wanted me to make a post-mortem and find out what really did ail her heart.

As in so many of these cases, death seemed to come to her with the greatest reluctance; in fact, it was not until cancer developed that she succeeded in dying. When I made the post-mortem I found out why Dr. Heaton and I had been puzzled about her heart murmurs. There was not a valve in her heart that was not affected, and badly affected; but most astounding of all was the atrophy of the ventricular walls. So completely were they wasted away that when I took out the heart I was puzzled to

know which was ventricle and which was auricle. The muscular substance had been reduced to such an extent that the wall of the left ventricle was certainly no thicker than the usual thickness of the left auricle, and yet that flabby, hopelessly demoralized heart had gone on, kept up her circulation and sustained life. Nothing could be more convincing as to the possibilities of adjustment of a damaged organ.

Now this same faculty of adjustment is characteristic of the nervous system as a whole. Consider for a moment the wretched nutrition of the brain cells which must go on in an advanced case of pulmonary tuberculosis. The patient is emaciated to the last degree, the anaemia is profound, the toxicity of the blood must be very great, and yet, once the brain has become accommodated to this condition of things it goes on performing its functions pretty much as if nothing was the matter. Indeed, it sometimes seems as if the consumptive has a mind more brilliant, quick, alert than it was before the patient became sick at all.

In this connection let me call your attention to something with which every one of us is almost certain to be familiar. I refer to the *preservative effects of chronic invalidism*. It seems as if these patients not only succeed in living, but their lives are actually prolonged by their invalidism.

When my father died I inherited from him one of his life-long charity patients. How many years she had been a burden on his shoulders I do not know, but I regarded her as an unfortunate old lady when I began the care of her, twenty-eight years ago. While I thought of her as an old lady, she had a singularly beautiful and smooth white skin, well formed breasts and a plump body. She immedi-

ately became the burden of my life. She was a most unreasonable woman in the demands she made upon the doctor. Every visit was prolonged, and the category of her miseries, ailments and sorrows was gone over with me with an endless repetition. Only her extreme poverty prevented me from abandoning the case almost as soon as I had entered on it. And so it went on until the march of progress made it necessary for their home to give place to a large manufacturing concern. The family moved into a distant part of the city, and I then refused to continue the case. Thirteen years went by, when a young man hailed me on the street and said, "Doctor, there is an old lady connected with our mission church who has been exceedingly anxious to see you. Would you go up and see her, just as a matter of charity?" Imagine my astonishment when I went in and found my old patient. She proceeded at once to tell me her tale of woe in exactly the same manner, and I should say in almost the identical words that I had heard so many times, years before. She still had her white skin and her pretty breasts and her plump arms. Her hair was still brown. She still rehearsed her sorrows; but time had passed her by and "never touched her." Her husband had taken to drink; her daughter was an opium eater—her sons had run away. Her married daughters never came home. The entire family was wrecked, but the chronic invalid had had none of the actual wear and tear of life. I have no doubt that there are many of you who could duplicate this story, who could tell of numerous broken-down mothers and daughters hastened to an early grave, while the invalid who had been the cause of it was perfectly well preserved.

As a further illustration of this same preservative effect of chronic invalidism, it is interesting to note the longevity of patients in our insane asylums. In every insane asylum there will be found patients whose nervous system is damaged—badly damaged—and yet, once the re-adjustment has taken place, these patients will outlive the ordinary expectation of life. They seem to be positively shielded from the actual damage to which a normal nervous system succumbs.

Some years ago an esteemed medical friend, who happened to have some very bad cases of hysteria at the time, read a paper before one of our societies in which he took the ground that hysteria was a very grave and incurable disease. I was very much struck with the paper at the time, because it seemed to me to be so exactly opposed to the facts.

Hysteria is a very prevalent disease; very large numbers of young people of both sexes—particularly females, however—exhibit at some period of their lives phenomena of hysterical affection. There is, for the time being, a profound alteration in the functional activity of the cerebral cortex, and at times the bodily symptoms seem to be of the most threatening sort; nay, more, not a few cases of hysteria show remarkable persistency in certain isolated phenomena. Cases of hysterical paralysis, and particularly cases of hysterical contracture, will endure for not only months, but years, and yet the curious fact remains that hysterical patients seldom die, and, with the rarest exceptions, they all recover. Even in the extreme cases of hysterical contracture, which have lasted for years, the outlook is by no means an unfavorable one. In some

of these cases the assistance of the surgeon needs to be called in; tendons are required to be cut, unused muscles require to be stimulated, but the year-long habit of contracture is capable of being broken into with the greatest rapidity.

It is important that we, as physicians, should recognize this, because it is precisely in these cases that quacks of all sorts, faith curists, christian scientists, bone-setters, osteopaths and enthusiasts of various sorts will take these cases, after regular physicians have pronounced them incurable, and bring about a cure which is genuine and complete.

Closely related to the prognosis of hysteria is the prognosis of neurasthenia. No class of patients, who consult the doctor, constitute a greater strain upon the vitality of the physician than do those cases of nervous exhaustion. For themselves they are very generally hopelessly pessimistic, and yet my own feeling, in regard to the great majority of cases of neurasthenia, is such that I enter upon the care of a case with cheerful and heartfelt enthusiasm. This does not mean that the physician is justified in expecting to work any miracles, nor does it justify the physician in leading the patient to expect any sudden or rapid restoration to comfortable life, but if the physician himself be gifted with an optimistic spirit, and if this spirit begets within him a courage which he can gradually infuse into the patient, if he can thoroughly win the confidence of the patient, and if then he can summon up a variety of resources, it is fair to look forward to a time when the patient will not only have gotten through his neurasthenia, but shall have gotten past it; when he shall look back upon his siege of nervous

exhaustion as a miserable thing in his past life. Very many of these patients, if they can be induced to follow the physician's plan steadfastly, can be restored to what can fairly be called perfect health. There are, however, not a few of them who must content themselves with a readjustment of their nervous expenditure to a more limited scale.

I remember a young lad who inherited \$27,000. Inside of three years his capital had disappeared, and he came to me to ask me to help him find a job. I found him not one, but three jobs; but steady labor to a \$27,000 young man proved irksome, and he was not a particularly well qualified employe. I finally told him that he must not visit me at my house or my office any more until he could come to me and prove, by doing it, that he could earn his own living. When he could do that he would be welcome again. Time went on, and the young man turned up neatly dressed in a very plain and inexpensive suit and said, "I have not come to ask for help, but to tell you that I have been earning my living and have had my salary raised twice in the last year." It is safe to say that the young man's mode of expenditure had materially altered. A large proportion of our neurasthenic patients have expended their nervous energies much as my young man spent his \$27,000. American men and women seem to think as he did—that they have an unbounded capital. It never occurs to them that a wise man spends his income and not his capital. If neurasthenic patients expect that they can be restored to such a degree of nervous vigor that they can resume their old habits and spend their capital without again becoming bankrupt, they are doomed to disappointment, but that under wise man-

agement almost all neurasthenics can be restored to useful life, and a happy one, I firmly believe.

There is one phase of the prognosis of neurasthenia which it is well to consider, and that is this: After exhausting diseases the whole body is often exceedingly debilitated. During the convalescence the problem before us is always that of securing prompt and perfect restoration of all the organs to their normal functional activity. Now, nothing is more certain than that it is a comparatively easy task, in many instances, to secure the restoration of the body weight, of the muscular bulk and the organic effectiveness of most of the bodily organs; but the re-accumulation of that surplus nervous energy which is essential to the normal activity of the cerebro-spinal axis is a much slower process. The importance of bearing this fact in mind is great, for upon it will depend the instructions we give the patient in regard to the resumption of the nervous expenditures. Take, for instance, a case of typhoid fever; notice how rapidly, during convalescence, the bodily weight is regained, the patient regains his color and, apparently, his muscular strength. In fact, it very commonly happens that a young man who has run through an attack of typhoid fever and has completed his convalescence, not only looks as well as he did before he had the typhoid, but will weigh perhaps ten pounds more than he ever did before in his life. People congratulate him on his excellent appearance, and the most natural thing in the world is for him to think that he is ready for any kind of activity, any amount of work, but while all this has been going on the restoration of nervous energy has been by no means as rapid nor as complete. It

takes a long time for a typhoid patient to get his nervous energy fully restored, and many of these cases have the unfortunate experience of breaking down their nervous system by attempting tasks for which the nervous system was not at all prepared. There is no necessary correspondence between the body weights, the general appearance of health and the actual reserve nervous energy of an individual.

Many of our neurasthenic patients are bodily fine to look at, and it requires a distinct effort for the physician to realize that the patient must be managed by keeping in view not his bodily appearance but his actual nervous reserve, and in our management of convalescents it is only by keeping this fact in mind that we will be able to guard the patient against a premature expenditure of nervous energy, which is liable to be exceedingly damaging, and is sometimes permanently so.

There is probably no form of nervous disease in which the question of prognosis plays a more important part than in that of traumatic neurasthenia. In the ordinary forms of nervous prostration the pessimism or optimism of the attending physician has a tremendous influence upon the future of the patient, but in all of those forms of traumatic neurosis in which suits for damages are concerned the attitude of the physician, from the moment that he is called to attend the case, plays an exceedingly important part.

Let us suppose that the physician, who first has charge of the case, recognizes the strong tendency of all neurasthenics to exaggerate their own miseries. Acting on this basis he makes as light as possible of the patient's subjective sensations, carefully abstains from asking him whether he has had this or that symptom, which

the patient has himself not mentioned, reassures the patient heartily as to the hopefulness of a speedy recovery, and, as soon as he can with safety do it, urges the patient to gradually increase the use of his powers; all my experience goes to show that, were this the usual course to be pursued, very many patients who have been injured would make a speedy recovery—so speedy, in many instances, that they would not think it worth while suing for damages.

What is the usual course? The attending physician pursues directly the opposite plan. In a natural, but most unfortunate, effort to be thorough in his examination of the patient, he begins to suggest new, and, to the patient, hitherto unknown symptoms which may reasonably be expected to occur after such an injury. Instead of trying to make the patient dwell but little on his symptoms, the physician, by constantly asking about each individual symptom, calls the patient's attention to it. By the time that a lawyer has gotten on to the track of the case and begins his exceedingly suggestive methods, the combination is complete. Between the patient's own injuries, his emotions, his hopes for large damages and the suggestion furnished, by the lawyer consciously and by the doctor unconsciously, the patient is almost certain to embark on a long career of unnecessary invalidism. It is not at all a question of the patient's essential honesty of purpose. No man can practice medicine without the keenest realization of the part that suggestion plays with very many of our patients, and, in these cases of traumatic neurasthenia, the combination of suggestions has a most disastrous effect upon the patient. Even the most honest of men, when he has be-

come thoroughly convinced that he has been very badly damaged and realizes that the time for the trial of his suit is not far ahead of him, finds it almost impossible to wish for or to attempt to be thoroughly cured before the time of the trial. It is simply human nature that, having been miserable for so long, he should want to be in a position to convince the jury, at the time of his trial, just how badly used up he has been. When the trial is over and the verdict settled for good the whole scene changes. The lawyer has no inducement to make any further suggestions, the patient has the rest of his life to look forward to; all of the inducements there are tend to make him wish for complete and speedy recovery. The physician may now go on with the treatment, on essentially the same lines which he carried out before, and there are not a few of us who have had the experience—and an exceedingly mortifying one it is—of testifying that, in our opinion, the patient's damages were permanent, only to find that within a comparatively short time the patient was restored to a reasonably useful life, and, occasionally, to our extreme chagrin, to perfect health.

At first we are apt to think that the patient has been thoroughly dishonest and that we have been totally bamboozled. This is not always the true explanation. The fact is that before the verdict our therapeutic measures were steadily nullified by the manifold suggestions tending to keep up the patient's invalidism, and after the verdict all of the suggestions tended in exactly the opposite direction. The moral of the whole thing is that the attitude of the physician from the first moment that he sees the patient should be such that at the last he can have a clear conscience that, at least, it was none of his

suggestions which helped to retard the patient's recovery.

This brings up the question of the physician's testimony on the trial of the case. All of the pressure of the plaintiff's attorneys, his friends and his own is brought to bear to make the attending physician take the view that the damages, real enough as they may be, are likely to prove permanent. The fact is that, just as it is the rule, to which there are comparatively few exceptions, that neurasthenics do recover and are finally able to carry on fairly useful lives, so it is true of the traumatic neuroses that no matter how great the disability at the time of the trial, the greater proportion become again capable of leading fairly useful lives. A small number remain permanently and hopelessly incapacitated. A very large proportion will retain some partial disability for many years, if not for life; but even these will be able to fill useful positions in life and extract a reasonable enjoyment from it, and a very considerable proportion of the cases can be said to make complete recoveries.

In speaking of the prognosis of nervous diseases I wish to call attention to the matter of surgical treatment of neurotic patients. We have been passing through an era of great surgical enthusiasm in the treatment of reflex neuroses. We are, all of us, familiar with the remarkable results which have been secured, in many of these cases, by surgical measures, and, yet, bright as the picture is, it has an exceedingly somber background. That background consists of blasted hopes.

From the surgical point of view the operation may have been a complete success and yet the expectations of the patient may not have been fulfilled; the cure of the nervous condition has not followed the operation; the patient is disappointed. If

this were all, both physicians and patients could learn to accept the thing philosophically. Unfortunately, however, the result of the operation is much worse than this in cases of failure. To the mind of the average layman a surgical operation looms up as a great and dangerous thing, a thing to be undertaken only as a last resort. Now, if a patient suffering from some neurosis is led to expect, either by direct promise or, more often, simply by implication, that the operation will cure the neurosis, all other things sink into insignificance in his mind in comparison to the operation. One who has had the operation done has made use of the last resource. If it fails he is apt to fall into a condition of absolute hopelessness. I do not mean that the surgeon promises to cure; he may, even, tell the patient explicitly that he cannot promise a cure, but the moral effect of the operation upon the patient remains the same; he has tried the last desperate resource and failed.

There are no patients who fall into the hands of the neurologist who tax his patience and draw upon him for moral support as do these post-operative cases. Many of these cases are entirely curable and are, finally, cured, but it takes a tremendous amount of effort and long and patient building up of the patient's confidence before such a patient can be convinced that there is still hope for him. Time and time again I have seen patients, of this sort, who were condemned to life-long invalidism, in whom hope could not be resuscitated and who, I firmly believe, might have been restored to health had a surgical operation not been done upon them. It is well to emphasize this, for, unless a surgeon can see a very reasonable probability of cure of the neurosis from the operation, he ought to refrain from do-

ing it, if the only reason for the operation is the possible benefit to the neurosis. In other words, a surgical operation ought never to be done for the cure of a neurosis because the surgeon thinks that the operation can *possibly* do some good. He ought to have a very strong assurance that it *probably will do good*.

In this connection let me allude to one particular phase of surgery as we sometimes see it. Not a few hypochondriacal patients become convinced of the reality of some imaginary defect in this or that organ. Very commonly their attention is fastened upon the sexual apparatus. This occurs, I think, quite as often in males as in females. So strongly is the patient's attention fastened upon this distinctly localized ailment that the suggestion comes very readily to the mind of the surgeon that if a fictitious operation be done purporting to remove the imaginary difficulty the whole mental and nervous tone may be changed. Now we can none of us doubt the valuable results that very often follow upon wise suggestion upon the part of the attending physician, and it is at once evident that a surgical operation, such as I have mentioned, naturally constitutes one form, and a very powerful one, of suggestion. The temptation is very great to attempt an operation for its suggestive effect, and yet it seems to me that a strong protest should be made against such measures. First of all the difficulty with the hypochondriac is not in the locality where he imagines his ailment to be, but is far more deeply seated. It is a defect in his mental mechanism. It is a very common thing to be able to watch the process by which a hypochondriac will himself change the location and nature of his imaginary complaint, and there is no guarantee that the operation will material-

ly change the fundamental condition of the hypochondriac. An operation, for instance, upon a perfectly insignificant and harmless varicocele may, indeed, convince the patient that his sexual apparatus is all right, but within a short time he may have an equally strong conviction that he has a serious disease in his kidneys. In short, surgery of this sort cannot keep up with the varying ideas which possess his mind.

The question, however, is much wider than simply the hopelessness of these operations. If the patient finds that the operation has been done purely as a matter of suggestion, he loses confidence, not only in the surgeon who deceived him but in the medical profession as a whole, and, worst of all, the moral effect upon the community at large is thoroughly bad. All medical men are regarded with a distrust because of surgery of this sort. When we watch the prevalence of christian science, Dowieism, and quack doctors of all sorts, it is not enough that we condemn them but it is always well to examine ourselves and see whether it may not be that members of the medical profession are not educating the public into a distrust of regular medicine, grounded upon methods that are not altogether above reproach.

A few words in regard to the prognosis of an affection which always comes under the care of the general practitioner before a specialist sees it—infantile paralysis.

Here we are dealing with a disease which leaves an indelible mark behind it. It is one of the diseases which leads physicians to form the exceedingly hopeless views of the curability of nervous diseases suggested in the remarks at the opening of this paper. And yet, even in these cases, the physician who is gifted

with hopefulness and who has therefore determined to use all of the resources at command for the improvement of the patient, will succeed in attaining results which can by no means be attained on any other basis. While it is particularly true that, in this disease, certain neurons are entirely destroyed and that certain groups of muscles are badly atrophied, that a damaged member, say the leg, fails to grow as its fellow, yet it is also true that, as the child develops, even the damaged leg does grow, to a very material extent, countless thousands of new muscular fibres develop in the damaged leg with the natural process of growth. Now the hopeful physician acts upon the principle that, in a growing child, if certain nerves and muscular fibres are damaged or destroyed, other muscular fibres, with their nerve connections, may be stimulated to grow and, to some extent, at any rate, take the place of those that are destroyed; always looking forward to maintaining the greatest possible use of the leg, he carefully prevents the deformity, which will inevitably follow from the contractions of the muscles opposing those destroyed, and it is astonishing to what an extent persistent, careful and energetic treatment can succeed in preventing deformity and securing a reasonable use of the limb. Whenever I see a frightfully distorted limb, with the history that it originated from infantile paralysis, I feel that I know the man who treated the case at the outset. He was a pessimist who put his hands in his pockets, concentrated his attention upon the defective pathological changes in the cord, and failed to avail himself of the power of growth which was in the child, and which only needed to be wisely directed in order to prevent, to a considerable extent, the disastrous result.

In talking with the superintendent of one of our insane asylums, some time ago, he stated that he had never seen a case of epilepsy cured. Here again is an instance of the hopeless attitude of the medical profession or of a number of its members. As he saw epilepsy, in the insane asylum, I have no doubt that his statement was absolutely correct; but that we should all of us regard epilepsy as an incurable disease is a radical mistake. While it is true that no conscientious physician dares promise a cure, in any given case of epilepsy, yet it is equally true that a fair proportion of cases of undoubted epilepsy, and even of cases which have gone on for long periods of time, are cured and can honestly be said to be permanently cured.

Here, again, success or failure is to no small extent determined by the primary attitude of the attending physician. If the attending physician regards the disease as incurable it is natural that he should carry out the routine treatment, recommended by the text-books, saturate the patient with bromides, and go on giving bromides until the patient stinks; he will regard the progressive mental enfeeblement as the result of the epilepsy, and the inevitable result is that, after a time, the patient drifts out of the hands of the regular physician and into the practice of taking some one or other of the many well advertised specific cures for epilepsy. The whole thing is a cause of but little pride to the medical man and of little honor to the profession, and, the more particularly, because it not infrequently happens that patients, whose cases have been pronounced incurable by a regular physician, are cured, and stay cured, and attribute their recovery to some patent medicine or some quack. The man who feels that epilepsy is a curable disease is not likely to fall into the serious error of

a routine, blind and dogged use of bromides and feel that if they fail he is at the end of all his resources. He will study his case carefully, regulate the patient's entire hygienic surroundings, his mode of life, his activities, his diet, and at least be certain that the drugs he gives do not do the patient more damage than the disease itself, and he will have the satisfaction of seeing not a few unfortunates restored to happy lives.

The prognosis of locomotor ataxia is ordinarily spoken of as being practically hopeless. I think the general idea is that we are dealing with a disease which not only is incurable but which is progressive and that it is a mere question of time—and not such a very long time—before the patient will be brought to a condition of absolute helplessness. I think that the ordinary phraseology of our text-books justifies such an idea. And yet the curious fact remains that locomotor ataxia is a disease for which proper treatment is capable of accomplishing much.

It is perfectly true that once the patellar reflex is entirely lost, the ataxia distinctly developed, the patient can never be cured in the sense that he will regain his patellar reflexes or that he will be entirely free from his inco-ordination, but under a persistent treatment which is animated by a hopeful prognosis it is astonishing to what an extent even profound cases of locomotor ataxia can be so far benefitted that we can restore them to a reasonable degree of useful and comfortable life.

I remember to have been consulted, eleven years ago, by a gentleman whose locomotor ataxia had progressed to such an extent that he was, at the time, unable to attend to his business. The lightning pains from which he suffered were something atrocious; his ataxia was so pro-

found that he only got about with two canes and that with great difficulty. He had ocular symptoms, double vision; in short, according to the books, he ought to progress in no very long time to a condition of bed-ridden hopelessness. The fact of the matter is that now, in the year 1902, he is conducting a large and responsible manufacturing business of which he is the sole proprietor. The last time I met him, going to New York, he came walking through the train. He was the picture of health, was able to navigate the moving train, carried no cane. When I asked him how he was getting along he said, "I am all right." He said, "I have a blast of pain occasionally, but I have had that so long I have gotten pretty well used to it." When I tried his reflexes they were, of course, lost. Here was a man who, according to the books, should have died, and, had the prognosis been a hopeless one, eleven years ago, I think he would have died according to program.

It is a curious fact that if a medical practitioner makes a diagnosis that the patient is suffering from some form of cerebral, or particularly spinal, syphilis, if the diagnosis is made of a gumma, the practitioner has generally quite a hopeful disposition. The doctor goes at the patient vigorously with iodide of potash and such other measures as may seem wise to him, and rather expects that the man will get over his more or less pronounced brain or spinal lesion. Why we should be so hopeful in a case of organic syphilitic disease and so pessimistic when we are dealing with non-syphilitic lesions has always been a mystery to me. We are not at all surprised to see a large uterine fibroid shrink away to a very great extent. We rather expect to see the boy whose hands are covered with warts, even very large warts,

wholly lose them after a time. Various other neoplasms come and go. The fact of the matter is that the connective tissue formation which occurs in locomotor ataxia is capable of going through precisely those same atrophic changes that take place in the gunnua or in the different instances that I have named.

I am satisfied that, in not a few cases of locomotor ataxia, the original sclerotic area diminishes very markedly in size. Now if there is anything characteristic of locomotor ataxia it is this, that in the midst of the sclerosed area the conducting fibres are not destroyed until a very late period; year after year, while the sclerosis endures, the patient will suffer from the lightning pains, but the very fact that he suffers year after year shows that the fibres are still capable of sending up their impulses; otherwise he would have an anaesthesia instead of his pains.

These considerations in regard to locomotor ataxia lead directly to the question of treatment. It hardly needs to be said that if the medical man feels that the prognosis of locomotor ataxia is hopeless he will confine himself to that mode of treatment which is at the same time easiest for the physician as well as for the patient. It is so easy to give the patient anodyne drugs for his lightning pains as long as the effect of the drugs is not worn out. The inevitable next stage is that the patient begins to drift from doctor to doctor, and from doctor to quack, and from quacks to patent medicines. If, on the other hand, the physician recognizes that, in the midst of the sclerosed area, the conducting fibres are still capable of conducting, if he bears in mind the well known facts, of the regeneration of cut nerve fibres and the fact that for one nerve

cell which is fully developed and in active service there lie, all about it, numbers of undeveloped nerve cells and that these cells can and do develop and take on new functions, the possibilities of therapeutics begin to take on another aspect.

The treatment of locomotor ataxia does not consist in the use of iodides and mercurials and opiates only; in fact not a few patients are damaged more and more by the blind and dogged use of these drugs. Put a locomotor ataxia patient on a course of thorough general physical upbuilding; give him tonics, improve his digestion to the utmost point, securing the most satisfactory assimilation of food products. Surround him with the best hygienic influences and then put him on a course of carefully planned and persistently carried out, and gradually increased, muscular exercise, and it is simply remarkable to note to what an extent a shambling, uncertain and useless ataxia patient can be restored to useful, and not ungainly, control of his legs. Ataxia is by no means a hopeless condition. The gentleman I mentioned, already, so completely recovered from his ataxia that he walked through a moving train of cars without attracting any attention, and as he walked about the streets, a busy man, no ataxia could be noticed, and yet when I first saw him he got about a few steps, with the aid of two canes, with the greatest difficulty. There was no miracle about it, but the man was treated with persistency begotten of a reasonable optimism. The ataxic muscles were trained to co-ordinate movements. It is strange that this training of ataxics has not attracted more attention than it has, in view of the fact that we have long been familiar with the marked improvement, which can be brought about, in chorea, by systematic and persevering gymnastic

training. The problem in both cases is essentially similar.

I have taken up, gentlemen, a few of those forms of nervous disease which come into the care of the general practitioner; cases which the general practitioner is always called upon to treat first of all, and have tried to show, not only that very many nervous diseases are curable, but it has been my desire to emphasize, above all, the fact that the curability of the case depends in very large measure upon the mental attitude of the attending physician. For good or evil the patient's career is largely determined by our own attitude towards him. If we accept the hopeless view we, to no small extent, doom the patient to a damaged, defective, miserable life. If, on the other hand, we feel that the nervous system is but a part of the whole organism and that, like all other parts of the human organism, it is endowed with a power of adjustment to changed environment and that, consequently, even though damaged, it can readjust itself and carry on its functions in a useful way, we will be to our patients a blessing, and the practice of medicine will be to us a constant satisfaction.

DISCUSSION.

W. J. HERDMAN, ANN ARBOR.

I regard the subject of this paper as exceedingly timely, and I am very glad it was read in the section on general medicine, because I think that such sentiment is more needed by the general practitioner than by the neurologist, although the doctor has quoted some neurologist as having given a pessimistic opinion.

A large share of nervous disorders are those of functional derangement. Now an optimistic opinion with regard to the curability of these functional derangements usually creates an optimistic impression of methods of treatment; and my own experience corresponds with that of the doctor, that in the majority of these cases,

rightly studied, rightly dealt with, they are curable. The curable element, however, or the line of cure, is largely that of suggestion, and the attitude that the physician bears to his patient; if he has a spirit of hopefulness it is bred in the patient, and the attitude of mind with reference to these functional disorders is very important in effecting a cure.

The only thought that I wish to add to this pessimistic conception of the incurability of nervous disorders for the benefit of the general practitioner is this: those cases that cannot be cured are those of derangement of an organic character, changes in structure, which come to the neurologist oftentimes, because they have been too long in the hands of the general practitioner before they reach the neurologist. The neurologist is constantly endeavoring to show the early symptoms that induce organic changes in the spinal cord, and in the brain, which, when they reach him in that state, are incurable. The only thing he can do then is to make the patient's condition as comfortable as possible. Now if those conditions are recognized early enough, they also are curable. One of the most unsatisfactory forms of spinal disorder, which results in permanent disability, and oftentimes long life, along with that disability, is primary lateral sclerosis. It has been my fortune in the last three or four years to find several cases of primary lateral sclerosis in their early stages. They have been cured, but they are not the disorders which, as a rule, produce any great amount of discomfort, and in the hands of the general practitioner, not having sufficient experience in that line, are looked upon as rheumatic disorders, in the early stages, until they become settled in the secondary stages, when organic changes occur, and then it is exceedingly difficult to do anything, and when they reach the tertiary stage it is impossible to do anything; and yet those cases last with a fair degree of health 20 or 30 years. I have found in the primary stages they are curable. Now the thing for us all to learn from this paper, I think, that is most important to us, is to recognize the tendencies in their early stages and then get the benefit of the specialist upon methods of cure in those stages. If that is done I think we can get a much more optimistic view, even in that class.

But as regards the functional disorders, if we have lost hope in the possibility of curing them, our methods of research and methods of treatment will never be approved. But I fully believe that these cases of epilepsy, hysteria and neurasthenia are curable in the majority of cases.

DAVID INGLIS, DETROIT.

I am glad that Dr. Herdman brought out the matter he did about primary lateral sclerosis.

If I can impress upon general practitioners who see cases of infantile spinal paralysis the same idea which Dr. Herdman emphasized in regard to primary lateral sclerosis, it may be of some benefit to many a child.

We see these unfortunate children growing up frightfully deformed. Whenever I meet a case of great deformity, the result of an infantile paralysis, I feel as if I personally knew the doctor who attended the child in the beginning.

The doctor was probably a man who said, "This is one of those hopeless diseases of the nervous system." He was a man who had the idea that nervous diseases are incurable, who, believing that nothing could be done, put his hands in his pockets and did nothing. Now the fact is, that if the man who takes charge of the case at the beginning has some hopefulness about him, if he remembers that the spinal cord of that child is bound to grow just as the child grows, that countless new cells in his spinal cord are going to develop and take up their activities—if, remembering these undeniable facts, he will go ahead and treat a case of infantile paralysis, not for a few weeks, not as a matter of form, but energetically, with a dogged persistence which keeps up with the growth of the child, I believe that the great majority of these cases of infantile paralysis could be drilled and trained and made to grow so that they would be spared from the wretched deformity. There is nothing that pains me more than the pessimism of doctors who let a case of infantile paralysis come to that result.

I am exceedingly glad that Dr. Herdman felt that I had told the truth as he saw it, that we have a right to be optimistic, and that when we are not optimistic we do the patient an irretrievable damage.

Owing to the rapid changes made in the membership of the State Society, the names of some of the new members may have been unintentionally omitted. If any member has not received his JOURNAL, the editor will be pleased to have his attention drawn to the omission.

The first meeting of the surgical section of the Wayne County Medical Society was held on the evening of November 3.

THE VALUE OF PLASTER CASTS
FOR ACCURATE CASE RECORDS
AND AS AIDS IN THE TEACH-
ING OF THE DIFFERENTIAL
DIAGNOSIS OF ABDOMINAL
TUMORS. WITH DEMONSTRATIONS.

REUBEN PETERSON,
Ann Arbor.

I would like briefly to call the attention of the members of the Section to some work which has been carried on during the past year in the gynecologic clinic of the University of Michigan Hospital. I refer to the taking of plaster casts of abdominal tumors and other pathologic conditions with a view of their use in the teaching of differential diagnosis and their preservation as accurate records of cases. While experience has given rise to not a few changes in the technique of the cast making, these two ideas, responsible for the undertaking of the work, have never been lost sight of.

No matter how good may be the verbal or written description of the limits, shape and contour of an abdominal growth, it can never be so realistic or so accurate as a plaster cast of the same tumor. The cast, moreover, is an imperishable, true reproduction of certain gross characteristics of the tumor, in such a shape that it can be made use of by another observer, perhaps for different purposes, years after it has been made.

For teaching purposes I have found such a cast invaluable. As an illustration, allow me to mention an incident that occurred while trying to have a class arrive at a diagnosis of a certain abdominal swelling. I asked the student why such a swelling could not be caused by an ovarian cyst. His reply was that an ovarian cyst would be at one side of the abdomen while

this growth was central and symmetrical. Instead of asking him to try to remember that after a certain period in its growth an ovarian cyst was apt to be central in position, I sent for the cast of such a tumor, which had been operated upon before the class, and had been proved to be ovarian and demonstrated the central position of the growth.

At first the mistake was made of making the casts too small, including only the tumor area. As more skill was acquired the area of the cast was increased until now the bony landmarks above, below and at the sides are all included.

Only the exceptional patient will object to having the cast made. This statement refers to private as well as hospital cases. Some of the most interesting and instructive casts have been from patients in private practice.

There is no pain connected with the process of taking the cast, even where the tumor is quite sensitive to the touch.

The technique of the process is quite simple. The finest dental plaster should be used. Coarser varieties will be found very unsatisfactory. The part should be carefully shaved and covered with a layer of sweet oil to prevent the plaster from adhering. The plaster should be mixed in cold water, the quantity of the latter depending upon the amount of plaster needed. The ordinary bread pan will be found convenient for the mixing. The plaster is poured into the center of the water, the mixing being done very gently and lightly with the hand, not a spoon. As soon as a cup full of plaster is mixed in this way another cupful is poured into the center of the water and so on until all is the consistency of thick syrup and is ready to be poured upon the surface to be taken. The plaster can be confined to any desired

area by a devise suggested by Dr. D. M. Cowie, a simple bicycle tire filled with shot. The weight of the shot causes the tube to hug the skin closely and allows of its being easily held in place. The plaster is poured into the area enclosed by the loaded tire until it rises to its top. As the plaster runs in, any bubbles should be pressed out with the fingers. The plaster hardens quickly, and after a little practice the cast can be removed without breaking, and the negative is made. It only remains to grease this negative, using butter instead of oil, and from it the positive may be taken. It is best to allow the cast to set for twenty-four hours before trying to separate the negative and positive. It is usually necessary to destroy the former in order that the latter may be removed intact.

I have brought with me a number of casts for the purpose of illustration. Here are three casts of cases of uterine fibroids, all of which have been subjected to hysterectomy. They represent different stages of growth, from the first appearance above the pubes until it reaches above the umbilicus.

Here is the cast of a procidentia in a woman who was between four and five months pregnant. Here is another case of procidentia in an unimpregnated uterus. It needs no further words from me to convince you that these casts are far better than any description could hope to be.

Here also are casts representing different stages of the pregnant abdomen. While they do not take the place of the living woman whose abdomen the student is taught to palpate, they are of great value in teaching.

I have also had paper maché models made of certain of the casts with a view of making them lighter. Up to the pres-

ent time, however, the lightness is the only advantage as they are far uglier and much less attractive than the plaster casts.

"SEQUELAE OF OPHTHALMIA NEONATORUM."

DON M. CAMPBELL.
Detroit.

The following clinical reports are made to this Section because in the writer's experience they embody some unusual pathologic results of a disease which is at once one of vast importance to the medical profession and also to the state.

The surgical procedure resorted to for the correction of the resulting deformities present also, in the writer's opinion, some points of more than passing interest.

Ophthalmia Neonatorum is, it has been estimated, responsible for the presence in the blind asylums of this country of about one-third of all who occupy these eleemosynary institutions, which aggregate is a considerable burden upon the taxpayers of the state from a financial standpoint, to say nothing of the loss of many individuals who otherwise would be useful and more or less ornamental members of society.

In not a few states of the Union legislatures have taken cognizance of the importance of the situation and made it a misdemeanor, punishable by imprisonment or a fine, for any nurse or midwife in attendance upon such a case to fail to report the same to a medical man.

Michigan has not, as far as I am aware, enrolled herself in this list of progressive commonwealths. Undoubtedly it needs only the backing of such an institution as the Michigan State Medical Society to receive favorable consideration at the hands of the proper authorities.

Under modern, rational and radical methods of treatment, almost all cases of Ophthalmia Neonatorum—please note that I say almost all cases—whether of gonorrhœal or other origin, will make a perfectly complete and uninterrupted recovery, no complication supervening and no sequelae following.

The following two cases under these circumstances seem worthy of report and record:

CASE 1. Ophthalmia Neonatorum—followed by total entropion of right upper lid—Operation—cure. The patient, a baby of three months, well nourished and growing satisfactorily, was brought to me in November, 1899, with the history of having run through a severe attack of Ophthalmia Neonatorum, one eye recovering completely and the original disease in the other also responding satisfactorily to treatment. When, however, the purulent conjunctivitis had subsided it was found that there was an almost complete entropion of the right upper lid. Upon examination the lid border was found to be completely inverted and the whole row of lashes was seen to be scraping with each movement of the lid upon the cornea, thereby producing considerable irritation, redness, lachrymation and discharge.

The following interesting pathologic condition was found: The skin surface of the lid showed a scar where an ineffectual attempt had been made to remedy the defect by excising an elliptical piece of skin and closing the wound with sutures. Upon everting the lid a firm adhesion of the fornix conjunctiva to the palpebral conjunctiva as far forward as the free border of the lid was found and it was evidently from the traction of this adhesion that the lid was being inverted and made to assume its abnormal position.

The following surgical procedure was instituted for the relief of the abnormality, which of course if left to itself would eventuate in the loss of the eye.

Under chloroform anaesthesia and after proper aseptic cleansing, the conjunctival adhesion was carefully freed and completely dissected up. The lid was then allowed to assume its normal position and a Hotz's Anagnostakis Entropion operation was done, the procedure being as follows: An incision was made through the skin parallel to and a little below the upper border of the tarsal plate from one canthus to the other. The flap was dissected up as far as the free border of the lid. Then with three sutures the upper border of the skin flap was sewed firmly to the upper border of the tarsal plate, the sutures being brought out in such a way as, when tied, to ensure the complete closure of the operative field.

The third and last step in the procedure consisted in the transplantation of a mucous membrane flap from the lip of the fater to the raw surface left by the dissection of the conjunctival adhesion. The mucous membrane flap "took," the healing of the skin wound was by primary union and the result eminently satisfactory, the lashes assuming their normal position.

This case was briefly reprinted in the *American Journal of Ophthalmology*.

CASE 2. Ophthalmia Neonatorum—Perforating Corneal Ulcer—Secondary Glaucoma—Buphthalmos—Miles' Operation—Recovery.

In June of 1901 this child, then twelve days old, was placed under my care.

A careful examination showed a violent purulent conjunctivitis, and the right cornea the seat of an extensive infected ulcer, more than one-half the corneal surface being already involved.

The purulent conjunctivitis went on to recovery in about the normal way, but the corneal ulcer perforated Descemet's membrane and the interior of the eye became infected.

However, instead of going on to panophthalmitis and subsequent atrophy, as one would naturally expect, the infection became limited, the corneal perforation healed, with prolapsed iris and obliterated infiltration angle.

Secondary glaucoma supervened and the eye gradually distended until it was fully three times the size of its fellow, which meantime had made a perfect recovery.

The deformity of this extremely large and constantly distending eye was very great and demanded immediate surgical relief.

Should enucleation, simple evisceration or Mules' operation be performed?

The first was rejected because of the arrested development which such a procedure in one so young would be sure to induce.

Simple evisceration was rejected because it is but little better than enucleation.

A Mules' operation was decided upon as offering the best cosmetic result and at the same time interfering the least of any with the growth of the orbit and side of the face.

The cornea was ablated, the contents of the globe carefully removed and into the scleral cup a silver sphere of suitable size was introduced.

Six sutures were passed through the sclera and four through the conjunctiva. There was practically no reaction, the healing was prompt, uninterrupted, and the child now has a large movable stump,

on which he has for six months worn an artificial eye.

The result from a cosmetic and surgical standpoint is particularly good and there is practically no secretion in the orbit.

I wish to call particular attention to the extremely young age of this patient at the time the Mules' operation was performed. The child was four and one-half months old when the Mules' operation was done.

In this connection I wish to report in some detail another case which, while not one of Ophthalmia Neonatorum, is one of the same disease occurring in an adult:

CASE 3. Mrs. K., aet. forty. Gonorrhœal Ophthalmia—Trachoma—Entropion of lower lid. Infiltration—Anaesthesia—Operation—Recovery.

This patient was admitted to my service at Harper Hospital and presented all the classical signs of a violent purulent conjunctivitis. Bacteriologic examination of the discharge showed abundant gonococci present, making the diagnosis of the original infection, which had taken place only a few days previously, very clear.

Under appropriate treatment the violence of the gonorrhœal infection subsided without any corneal complication supervening.

Instead, however, of going on to resolution in the usual way, the palpebral conjunctiva passed into a condition clinically identical with and indistinguishable from trachoma, which observation would tend to confirm the opinion which has been advanced by some that trachoma is a modified gonorrhœal infection.

Another interesting feature of this case was the occurrence some months later of a complete entropion of each lower lid, which also strengthens the identity of the two diseases.

The entropion was relieved by surgical means, the operation being done upon each lower lid under the Schleich infiltration anaesthesia without any pain either in the removal of the skin flaps or in the introduction of the necessary sutures.

The healing was by primary union and the result good.

DISCUSSION.

R. W. GILLMAN, DETROIT.

The first case reported by Dr. Campbell is certainly a very rare one. The sequela of a lid trouble, entropion, or turning in of the lid, is most infrequent. In ten or twelve years of practice I do not remember meeting such a case. The danger of an inflammation of this character is to the eyeball itself, and the result is peculiarly serious, as it involves the very delicate structures of the cornea, which are apt to become sloughed or opaque; and, as the doctor remarked—I cannot tell you the exact number—a large percentage of blindness in this world is caused by purulent ophthalmia. It is sad, indeed, to think of how many of these cases could have been prevented by early recognition and prompt treatment. I am sure no one could meet such cases and not become impressed by the want of attention they receive in the early stages. The usual result, as I have said, is some affection of the cornea. A short time ago I enucleated the eyeball of a young child of two years of age, whom I first saw when only four or five days old, suffering from ophthalmia neonatorum; and in that time the cornea had completely sloughed. When I saw the case two years afterwards, the cornea, or rather, the eye, had bulged forward. I enucleated the eyeball, and in its place I inserted a piece of sponge, with excellent results, it forming a nice stump for the artificial eye. What I wish to bring forward and emphasize is the great importance of the early recognition by the general practitioner of ophthalmia neonatorum. By its receiving the proper treatment, as Dr. Campbell says, nearly all these cases of blindness can be prevented.

F. A. ROLLER, GRAND RAPIDS.

This paper of the doctor's brings out a very important subject that we all feel like discussing, and I wish to go back a little further than Dr. Gillman, and say a word in regard to the prevention of this disease in the hands of the general practitioner.

I believe, with a proper disinfection of the vaginal canal, before and during delivery, that many of these cases can be prevented; further, that the general practitioner should, if he has any reason to suspect that the patient has a gonorrheal or any other discharge, use a solution of nitrate of silver, one or two drops, five grains to the ounce, in the infant's eyes. The sequelæ that we usually get from this disease are ulceration of the cornea, followed with leucoma and sometimes staphyloma; I never saw a case of entropion following the disease, but I have seen several cases of ulceration, followed afterwards by leucoma or staphyloma.

I believe the Mules' operation is a very good one, though I have never performed it in a child of the age the doctor mentions.

It seems to me by the introduction of a sphere of some kind the parts are in a better condition to grow and develop, and that the orbit can attain more its natural size; as the child grows those parts will grow more when the orbit is filled in with something that holds those parts in place. I believe the Mules' operation is a very good one, and I think if I find occasion to do the operation in the future I will try the method the doctor has mentioned.

JAS. A. KING, MANISTEE.

In introduction I may say that I think the author of the paper was mistaken in the statement that we have no law requiring the calling of a doctor in a case of midwifery practice where a purulent discharge occurs. I think there is such a law.

In regard to a doctor who does not know an ophthalmia neonatorum when he sees it: if he has studied medicine and graduated, and does not know a disease so easily diagnosed as that, there is no excuse for him. He ought to know it; it is plain enough so that any man ought to recognize it if he never saw a case before. There are some things a man should know when he gets through college, and that is one of them.

If you give your patient a good thorough vaginal douching before labor you may prevent some cases, but unless you keep your irrigation going all the time, I think you would be more likely to fail.

C. L. BARBER, LANSING.

I want to say a word as a general practitioner, as they seemed to be blamed for these cases when they reach the specialist, yet no specialist has told us how to prevent these cases coming to him. I do not believe that the irrigation of

the mother's vagina is going to keep the baby from having sore eyes. There is no doubt but that the sore eyes come from infection of some kind. My method in attending cases of confinement and in preventing cases of this kind is in the care of the baby after it is born. It is all right, if you suspect gonorrhea or any other disease of the vagina, to irrigate it, but I do not think that is sufficient; I think these cases can be prevented ninety-nine times out of a hundred even if you do have infection. My method of preventing it is this: If you have a trained nurse who knows how to wash out the baby's eyes, after it has been given the general bath and dressing, with a sterile solution of salt (normal salt solution), she can do it and do it thoroughly in these cases, and I do not think you will have any trouble with the baby having sore eyes. If you have not an experienced nurse I think it is the physician's duty, before he leaves the little patient, to take a clean cup of sterile water and put in salt enough to make it the strength of a normal salt solution, as you would fix it in a surgical solution; put a little piece of sterile absorbent cotton in the water and wash the baby's eyes out before the nurse, so that you know that not only the inside but the outside of the baby's eyes are washed; then if the nurse who is taking care of the baby afterwards has a thimbleful of sense she will know what to do, and the specialists will never have one of these cases to treat.

DON M. CAMPBELL, DETROIT.

I have very little to say in closing the discussion excepting this, that it is possible to prevent ophthalmia neonatorum from advancing as Dr. Barber has outlined it, and in these cases that become infected, or are likely to become infected in spite of such a cleansing, the infection taking place in the parturient canal, the employment of what is known as the Credé method for the prevention of ophthalmia neonatorum will prevent almost all cases; by that method it has been found in obstetrical institutions that the percentage of ophthalmia neonatorum has been reduced from ten or fifteen per cent. down to one-tenth of one per cent. of all births in those institutions. That method consists of simply dropping two or three drops of a two per cent. nitrate of silver solution into the infant's eyes shortly after birth. In the suspected cases that would be the proper thing for the attending physician to do, not only to take care of the parturient canal, and thoroughly cleanse the eyes, but also to drop into the baby's

eyes two or three drops of a two per cent. solution of nitrate of silver. Just one application is sufficient. The transplantation of a sponge into the orbital cavity after enucleation is a procedure that has been more or less tried; it is open to some objections. It is hard to thoroughly sterilize a sponge. Being an organic substance, it is finally, in the course of time, absorbed, leaving the result much the same as after a simple enucleation.

The feasibility of the Mules' operation in a child as young as this one presents no different problems from a grown person. Instead of removing the whole eyeball, the cornea and contents of the eyeball are removed, as in evisceration, and into the scleral cup an artificial vitreous is introduced. Something is left in the orbital cavity which nature has to nourish, and therefore brings the requisite amount of blood to the part in order to nourish that which is left and to develop the orbit and the side of the face. The age of this infant, I think, perhaps, is a matter of record; I do not remember of reading of one so young, but the result was good; the reaction was not more than after an ordinary enucleation, the cosmetic result is almost perfect, there is no sinking of the parts around the orbit, as is seen so often in artificial eyes introduced in the orbits without an artificial stump of some kind, and the movement is also very good.

As to the kind of material that should be used in Mules' operations, Mules himself, some fourteen or fifteen years ago, first did the operation and used glass spheres; these were very satisfactory, but some of them, I believe, were broken subsequently, so that a metal sphere was introduced; the next one to be used was of silver, and it was during the time when silver was being used that I did this operation on the little baby. If I had to do it again I would use a gold ball, the objection to the silver being that in the course of time it oxidizes and is likely to stain the tissues, whereas gold will not do that.

THE TREATMENT OF TYPHOID FEVER.

GEORGE DUFFIELD,
Detroit.

The subject that I present to you to-day is not a new one by name, it is one we are all well acquainted with; it is one that we will all have to treat before the winter comes, and so I feel justified in presenting

my views on the treatment of typhoid, both dietetic and medicinal, and I hope to give you a brief outline that will prove of benefit to all general practitioners.

About eight years ago a paper on this subject, which I read at Mt. Clemens, created considerable discussion. Then the subject was discussed from the view that the late Dr. Woodbridge advanced, namely, "that intestinal antisepsis was essential in the cure of typhoid fever." My opponents were those who recommended the Brand method of treatment, with cold plunge baths, etc. At that time we each went our separate ways, but it is needless to say that the writer did not adopt the Brand method, because he had found that the intestine could be made almost antiseptic, and cases treated on these lines went on to recovery without suffering relapse or serious complication, as is frequently the case with other methods.

A typhoid fever patient as a matter of course should be kept in bed throughout the whole course of the disease, and the convalescence.

A competent nurse should attend the patient, and the nursing should not be divided among half a dozen of a family. The sick room should be large, well ventilated, and quiet, and as far removed from the kitchen as possible. The nursing should not be done by those of a family who prepare food for the other members, for the ease with which the disease is carried makes it very necessary to avoid all possible chances of spreading.

The patient should be kept cool and the room should be freely and frequently aired. Cleanliness of the patient is to be especially desired. Besides a daily sponge bath, the areas around the anus, the perineal and sacral regions should be thoroughly washed with an antiseptic solution

after a movement. Soiled linen should be removed and treated with antiseptics. The urine as well as the stools should be thoroughly disinfected with 1 to 2000 bi-chloride solution before being thrown into the closet.

The mouth should be frequently cleansed.

Infected food may be a source of continued infection.

The water supply may be infected, and its continued use would act to increase the infection.

The milk supply may be a source of the contagion and the foods formed from it, such as butter, cheese and whey may contain poisons. Fruits that have been exposed to the odors of sewerage are also frequent carriers of typhoid bacilli.

For many years the one symptom above all others that has had all attention has been *the fever*. The high rise of body temperature was looked upon as the most weakening of all pathological changes, and so all efforts were made to reduce the temperature. Many practitioners are still of the opinion that the fever is the one symptom that needs their personal attention, and so all their efforts and all antipyritics are turned to its reduction.

The present treatment of typhoid should be directed toward rendering the effects of the toxins less toxic, and as far as possible innocuous.

This is in a nutshell the plan that I have adopted in the care of my cases.

Osler in his practice says: "Very laudable endeavors have been made in many quarters to introduce methods of treatment directed toward the destruction of the typhoid bacilli or the toxic agents which they produce, but so far without success." Again he says:

"Based on the erroneous view that the bacterial growth is chiefly in the intestine itself, Thistle and others have advocated and attempted elimination by thorough evacuation of the bowels and the giving of intestinal antiseptics."

Our eminent colleague is not in favor of the plan, believing as he does that the intestine is not the primary seat for the development of the typhoid bacilli.

Personally, I believe he is wrong in his theory.

Intestinal antiseptics has been condemned by some of the leading men in our State University, and throughout the United States as impracticable and next to impossible. Many authorities believe that such a treatment has not a rational basis, and so do not advise it. But in the body in health, the intestines are aseptic because of Nature's antiseptic, the bile, and if aseptic conditions exist normally, we have reason to believe that we can restore the condition.

We have not a specific treatment of typhoid fever yet. No method has been discovered whereby the existing cause, the typhoid bacillus and its toxins, may be destroyed, thus preventing its dissemination throughout the whole system.

But in the light of modern research in ætiologic and bacteriologic methods our conceptions regarding the nature and mechanism of the infectious processes are changing; we learn that the fever is an expression of the action of the typhoid toxins upon the tissues.

So our treatment, instituted as early as possible, should be to lessen the intoxication of fast-forming poisons. We must treat a group of symptoms rather than a single symptom, and we must anticipate others. By waiting the temperature rises higher and higher each day, and the in-

toxication may be marked even with temperatures that are comparatively low.

Early symptoms of intoxication are: Severe headache, restlessness, sleeplessness or the reverse, vertigo, and drowsiness, nausea and vomiting, with loss of appetite and a tongue heavily coated in the center, diarrhoea and frequent stools, or constipation. Diarrhoea is a variable symptom, occurring in only about 10 or 15 per cent. of cases. It is more common toward the end of the first week.

Osler reports that on several occasions, where constipation existed and the colon was filled with solid faeces, that extensive infiltration and ulceration of the Peyer's glands of the small intestine existed, as was noted at the autopsy (p. 230, Osler's Practice).

What is this but bacteriological intoxication resulting from absorption of the toxins in the intestinal tube?

Bacteriological infection is to-day beyond question the cause of typhoid fever. The Eberth bacillus is the principal cause, though the proof is not quite as strong as that the tubercle bacillus is the cause of tuberculosis; and typhoid fever never originates except through the action of this germ.

But the bacilli of the intestine must not be overlooked; the bacillus coli communis is capable of producing a fatal degree of toxæmia. This bacillus is the organism most often isolated when bacteriological examinations of drinking water are made, and its presence is undeniable evidence that there is sewage pollution, so that in many cases we have a double infection, the primary one the colon bacilli and the secondary one Eberth bacillus. To these must be added the bacteria that are always present.

For a number of years, when first called to a patient suffering with all the symptoms of typhoid, provided the case has not been more than ten days sick, I give calomel in a few five-grain doses with five grains of Sodii Bicarbonate, depending upon the condition of tongue. This plan is not new. This medicine not only asserts a purgative effect, but shows a marked anti-toxic action upon the intestine, but to get good effects it should be given early. Liebermeister recommends five grains at intervals of two or three or four hours for the first twenty-four hours. This form of medication clears the intestine from fermentative masses, and may be followed with a saline, if not effective.

Believing that the bowels should be kept as aseptic as possible, I have found that pure guaiacol accomplishes this condition better than any other remedy. The dose is usually five minims every three or four hours, given in capsule. I have often noticed a special antipyretic effect when the medicine is given internally. I give it for its antiseptic properties primarily, and I am sure that I accomplish the desired purpose, for the stools and urine are redolent with the characteristic odor, showing that the medicine must have passed the diseased surfaces as guaiacol and rendered the parts aseptic by its presence. Some stomachs are irritated with pure guaiacol and the drug cannot be administered. When such cases are met, recourse may be had to the carbonate, which is no doubt the next best antiseptic. This may be given in doses of from five to ten grains every three or four hours.

Less importance is attached to-day to the direct control of the body temperature than formerly, for the reasons I have mentioned, yet when the temperature persists at 104° or more, as it does at the end of

the first week or ten days, it is necessary to reduce it promptly, and so conserve the strength of the individual and lessen the tendencies to serious complications.

Prolonged high temperature, when it remains above 104° for four or six days, may be attended with serious complications. The quickened pulse and respiration tend to cardiac weakness, or some pneumonic condition, the increased oxidation promotes disintegration of tissues and emaciation, and loss of strength follows rapidly, and the typhoid bacillus are disseminated into distant organs. So to check this prolonged and septicemic condition, cold baths or cold sponging are often employed, but their action is often slow and not lasting, and do not in any way remove the cause of the fever.

For a number of years the local application of pure guaiacol has taken the place of baths with me. My attention was first called to this method of employment when reading the second edition of "Shoemaker's Materia Medica and Therapeutics," page 376, where it says: "Guaiacol is readily absorbed by the skin. It has been found that a local application has the power of reducing febrile temperature." In looking up the subject I found that Scidla of Genova (Cron. d. clin. med., 1892-1893, pages 171-176, Semaine Medical, 1893, No. xxi), first pointed out "that pure guaiacol acted as a powerful antipyretic in doses of two to ten grammes when painted on skin of back, limbs and abdomen. In these large doses it was noticed in the urine one-half hour after it had been applied, and the patient tasted the remedy in fifteen minutes. When the pure drug is applied it never produces any inflammatory conditions."

Before the application is made the pa-

tient should be placed between woolen blankets.

The point to be selected for the application is well worthy a moment's thought. I believe the best place is over the ileocecal valve, over the seat of the disease. The part to receive the application is first washed thoroughly with soap and warm water, then with alcohol. The guaiacol is painted over an area of five or six square inches, or better, five to five minims are dropped upon the skin and gently rubbed in by the attendant for ten minutes, and then the place is covered with cotton wadding and oiled silk.

Reaction being in ten or fifteen minutes after the application, the patient breaks out with profuse perspiration, and when the dose has not been large, five to twenty minims, rarely is there marked depression. The temperature continues to descend for three or four hours. The pulse grows full and strong, and it rapidly lessens in proportion to the reduction of the temperature; the patient shows no signs of cyanosis, and invariably says he feels strong.

It must be remembered that the effect of guaiacol is the same as of other coal tar products, only it is more powerful, and great care must be exercised in its use. The fall of temperature is due to an effect upon the heat center in the brain, produced reflexly through the peripheral nerve terminations, and to a slight degree to the inhalation of the vapor of the drug. Profuse sweating follows. Sometimes one-half to one ounce of whisky or a cup of sweetened clear coffee prevents a feeling of weakness and may be given during the application. The reduction of temperature by this method is not attended by marked cardiac weakness. I try to reduce the temperature to 100° or 101° ,

rather than to have it fall to or below normal, for when reduced to normal or below a chill frequently results.

As an antiseptic to the urine, the guaiacol, when administered, must have a beneficial and an antiseptic action, though I have never had a bacteriological test made of the urine.

One thing we as physicians must constantly bear in mind is that the disease is a protracted one. We must anticipate a large amount of loss of weight, and we must therefore study our individual cases and supply to them, as far as it is possible, a nourishing diet, in liquid form, that is easily assimilated and contains fats, carbohydrates, gelatinous substances and proteids. The secret of success is to give small amounts frequently, at intervals of two or three hours.

The diet of typhoid should be that which is easy of digestion by the stomach, without leaving a residue that will act as an irritant and remain unabsorbed in the intestines, and so increase the amount of faeces.

The digestive secretions of the alimentary canal are greatly reduced and perverted, and for this reason it is impossible to secure complete digestion of food, as in health.

Most authorities advise the use of milk as the main article of diet. Theoretically, it appears to be the most rational form of nourishment for fever patients, as it represents the ideal combination of proteid, carbohydrates with fats and salts in convenient solution; the proteids of cows' milk consist of casein, lactalbumin, nucleins and globelins; the casein is four or five times greater in cows' milk than that which the infant gets at its mother's breast; there is six times as much lime salt and three times the amount of acids, and

the acids, together with the milk curdling ferment of the gastric juice, are responsible for the curds that follow the ingesta of milk.

The medical profession naturally assumes that milk is a fluid and readily assimilated by the stomach, leaving little residue, but I affirm that milk is only a fluid outside the body. In the stomach it becomes coagulated into curds, which are solid or semi-solid. These pass into the intestine to act as a culture medium for the typhoid and intestinal bacilli, so forming an irritant of a serious nature, and later will produce frequent pultaceous stools; the symptoms of such indigestion being a sense of fullness or weight in the epigastric region, and more or less distension of the bowels with gas. Where tympanitis manifests itself, when the disease is in the second week, a time when it is most liable to occur, it is a serious symptom. Often the gaseous distention is due to a paralysis of the muscular wall of the intestine, brought about by the general infection, the result of the absorption of the toxins; to this cause must be added the fermentation of food stuffs, milk especially acting to increase the fermentation processes, and the formation of gas. Frequently, where considerable meteorism exists, persistent diarrhoea accompanies the condition and is proof positive in my mind to be due to intestinal indigestion, produced by the undigested milk.

Milk curds from the intestines, taken from the stools, on post-mortem examinations have been demonstrated to contain swarms of bacteria which are productive of fermentation, and continuous auto-intoxication is the result. The fever rises higher and higher as the re-absorption takes place, and the lymphatic glands and other organs of the body suffer from the

infection, and as the diseased germs are absorbed and appear in the other organs and distant glands, we have what might be well called a typhoid septicæmia. An exclusive milk diet produces constipation, and this condition locks up the bowels, so adding a serious condition to the already existing disorder. So I say regarding milk and milk foods, cut them out.

Sterilization of milk lessens the tendency of the curd formation, makes them less tough, but at the same time chemical changes are produced by the boiling which causes a loss of certain necessary nutritious elements of the milk, thus lessening its power for good in the animal economy. The fats are partially decomposed, favoring butyric acid fermentation. Feeding with sterilized milk is productive of serious and detrimental tissue change. In infants rhachitis and scurvy follow its use. So, in adults, there is a marked loss of weight when it is used and greater emaciation.

Having taken away milk and milk foods, what shall we offer as a substitute for milk diet?

First, let me again emphasize the fact that the digestive secretions of the typhoid patient are deficient in quantity and quality, both as to their organic constituents and digestive ferments, upon which depend their effectiveness.

Bile, the natural antiseptic of the intestines, is withheld, hence that part of the digestion that is carried on in the intestine is greatly weakened.

So, keeping one thing in mind, namely, *intestinal rest*, we must, so far as possible, give foods that are digested completely in the stomach, and leave little residue to be passed into the diseased and irritable intestine.

First, sterile water, drunk in large quantities, acts as a food and an eliminator, both by the skin and the kidneys, for the typhoid germ is given off in the kidneys in large quantities, like the faeces, and both need diluting. A sub-normal temperature can usually be avoided by judicious feeding.

Beef peptinoids and panopepton, beef juice and beef extracts and strained animal broths, Mellin's and Nestle's Foods, act well as substitutes. Sweetened clear coffee or tea is highly nutritious and often aids in sustaining the patient's strength, even better than alcoholic beverages.

As the fever abates, a carefully selected soft diet promotes an early and speedy convalescence; broths may be thickened with rice or pearl barley; then calf's foot jelly, blanc mange and cream, soft boiled eggs, creamed toast. Sometimes a digestive ferment may aid the more complete digestion of the food and relieve dyspeptic symptoms:

Following this plan of feeding, patients go through their sickness feeling pretty well, are able to turn over in bed and aid themselves throughout. There is practically no constipation—no tympanites, and a fever that is not excessively high, the loss of flesh is not excessive and the tonic-ity of muscle is conserved by this plan of dietetic treatment, coupled with the medicinal, above described. Delirium has been almost unknown, and other complications are rare. Relapses have been very infrequent.

Dr. Geo. Dock, of Ann Arbor, on October 14, 1902, read, by invitation, before the Buffalo Academy of Medicine, a paper entitled "Jenner's Works and Their Value in the Modern Study of Small-Pox."

ANEURISM OF THE INNOMINATE ARTERY.

Report of a Case Successfully Operated.

LOUIS J. HIRSCHMAN,
Detroit.

The extreme rarity of the condition, herewith noted, and the more infrequent instances of recovery after operative interference, suggested to me the possibility that the report of a case successfully operated might interest the Society. I say the condition is extremely rare; I might, perhaps, more properly say that while aneurism of the innominate artery is far from being a common form of aneurism, its *recognition* is extremely rare.

I am informed that in Vienna two cases of innominate aneurism were discovered in a series of eight thousand autopsies, and in neither of these cases had the diagnosis been made before death.

Too often patients who complain of pain in or near the region of a joint are told that they are suffering from a slight attack of rheumatism or neuralgia, and careless practitioners prescribe for those conditions when far more serious trouble may be present.

If physicians in general would not take so many of their patients' descriptions of their symptoms for granted and would pay a little more attention to physical examination of the parts complained of, then we would have more early diagnosis of aneurism and fewer fatal cases of so-called rheumatism.

The report of a rare case of any kind is of interest to the practitioner of medicine, not merely because it is a medical or surgical curiosity, but because we know not when just such a case may come up in the practice of any one. The ordinary text-

books are not always as explicit as *they might* be, and little notes from personal experience are often of far more value. So with the idea of possibly being of some help to some one of my brother practitioners, I submit the following report:

The patient, F. W. F., is forty-five years of age, and a railway switchman by occupation. About March 5, 1901, he noticed a soreness over the right side of his chest and his right shoulder. This soreness gradually grew worse and extended to and involved the right arm. He consulted a physician at that time, who made a diagnosis (?) of "rheumatism," and treated him accordingly until August 28, 1901.

His condition steadily growing worse, he decided to change physicians. He accordingly called in Dr. Hiram A. Wright on August 29, 1901. Dr. Wright made a careful examination of the seat of the trouble and made a diagnosis of aneurism of the innominate artery. He asked me to see the case with him the following day. I did so and found upon examination that the doctor had correctly diagnosed a large aneurism of the innominate.

There was a marked bulging of the first three ribs on the right side and of the right side of the sternum. There was also a pronounced pulsatile bulging between the origins of the sterno-mastoid muscles, the right half being most prominent. The integument over the tumor and the adjacent area presented a markedly cyanosed appearance.

The patient at this time was in severe pain a greater share of the time. He was suffering from dyspnoea, insomnia and loss of appetite. His voice was harsh and strident; he was coughing a large part of the time, and was hardly able to walk.

His heart's action was very weak and rapid, intermittent and irregular.

Auscultation revealed a pronounced aneurismal bruit or thrill, which was discernable over not only the pulsating tumor, but also over the course of the right common carotid artery.

The extreme gravity of the situation was explained to the patient and his friends, and the fact that the chance of a successful termination, even if operation was attempted, was very doubtful. He replied that as certain death within a few days stared him in the face, if he were not operated, he was willing to take any chance to gain a longer lease of life.

He entered St. Mary's Hospital on September 3, 1901, and I operated the following morning. Chloroform anaesthesia preceded by the administration of fifteen grains of chloretone (to prevent nausea and vomiting) was employed during the whole operation. An incision five inches long, extending parallel with the clavicle, outward from the sterno-clavicular junction, was made, and the upper part of the aneurism at the root of the common carotid artery was exposed. The aneurism was found to be the size of a hen's egg, only more rounded in shape. I decided to ligate both the common carotid and the sub-clavian arteries at the same time, in the hope that the sac would fill with clotted blood, which would later become organized and the life of the patient thereby prolonged.

The carotid was tied a half inch above the sac, while the sub-clavian was ligated in its outer third. Strong number three, dry-sterilized cat-gut was used. The wound was closed with a buried continuous cat-gut suture, and the integument was approximated with sterilized zinc oxide adhesive strips.

The patient reacted well, there was no swelling of the right arm and no disturbance of cerebral circulation. He made a perfect convalescence, the wound healed by primary intention and he was allowed to sit up at the end of the third week.

At the end of four months he was in better health than for several years, and to-day walks to and from his office (a distance of four and one-half miles). There was at first some atrophy of the right arm, but at end of the fourth month the radial pulse again became established and to-day the arm is as large as ever. At the present time he is engaged in office work, as it was deemed unsafe for him to do any such exhaustive labor as was the case in his previous occupation, railroading.

Of the thirty-six cases which I have found reported operated in this country by the simultaneous ligation of both subclavian and common carotid arteries, but nine recoveries are noted.

In the case personally reported it might be of interest to note that a fluoroscopic examination of the patient five months after operation revealed a solid mass almost opaque to the rays, somewhat smaller than a hen's egg, and occupying a position corresponding to that which was formerly occupied by the aneurism. Dullness can be elicited over the area upon percussion, while inspection fails to reveal any bulging, or in fact anything abnormal, except an almost imperceptible scar.

DISCUSSION.

F. B. TIBBALS, DETROIT.

I am sorry Dr. Hirschman was not able to present the case to you here as he was to the Detroit Medical Society a month or two ago. Dr. Hirschman is entitled to the congratulation of any operating surgeon. These cases are very rare, rarely diagnosed and rarely seen, and there are few men who have the courage to tackle an

aneurism of the innominate artery, and when one is found who has, he ought to be congratulated when his patient recovers.

K. GUNSOLUS, DETROIT.

I cannot help but voice the sentiment of the previous speaker in the doctor undertaking such a formidable operation. In the memoirs of Gross, published in 1868, about the illustrious Valentine Mott, he speaks of him as the greatest surgeon that ever lived, and that he tied more arteries than any other surgeon; and he speaks of the celebrated case of the innominate artery, before that tied by no other surgeon, and with success. It is a formidable undertaking, the ligation of vessels is an interesting one, and it comes to the lot of but few of us, sometimes to only a very few, to do such an operation, but nevertheless we should be prepared, so that when it does come we can ligate any artery that can be safely ligated. The ligation of arteries and the history of the ligature is an interesting one in itself. Celsus, the Roman physician, anticipated the stopping of blood by some other means than the red-hot iron or the red-hot knife 1,500 years before it was acted upon by Paré, and I certainly congratulate this young man—I call him young—for undertaking and successfully carrying out such a formidable operation.

L. J. HIRSCHMAN, DETROIT.

I wish to correct one statement of my friend Gunsolus. He is under the impression that I tied the innominate artery; I didn't; I tied a half an inch above the innominate artery, and I attribute the happy result in my case to the fact that I did not tie the innominate, but that I tied above it, as that artery is too short, and the chances of the ligature slipping are ninety-nine in a hundred, so I don't think he can compare this case with Gross's at all.

THE ADMINISTRATION OF NORMAL SALINE SOLUTION.

ALEXANDER MacKENZIE CAMPBELL,
Grand Rapids.

Normal saline solution or physiological salt solution is a six-tenths of one per cent. solution of chemically pure sodium chloride in water. It is called normal or physiological salt solution, because it contains the same proportion of sodium

chloride as the serum of the human body.

For practical purposes it is prepared by adding a teaspoonful of common salt to a pint of water and filtering and sterilizing the mixture. This, however, is only an approximately correct proportion, as the exact amount per pint of water is 43.728 grains. In hospitals where its use is of frequent occurrence fractional sterilization is employed, and the danger of infection is consequently reduced to a minimum. The fluid should be administered at a temperature of from 110° to 120° Fahrenheit, and this degree of heat should be maintained throughout the operation.

During a short professional career, observations upon and practical experience in, the administration of this solution, both in hospital and in private practice, have impressed me profoundly with its merits, and have constrained me to make this plea for its more earnest consideration and more extended use.

We physicians who live at a distance from great medical centers and who are not within reach of laboratories of research and experiment, only keep step with medical and surgical progress by the application of principles and practices promulgated by our conferees who discover and introduce them. And yet it is largely left with us to pass judgment upon these discoveries and to determine whether they amount to but meteoric hypotheses or important additions to our armamentarium. Normal saline solution has proven to be a valuable auxiliary to the practitioner of medicine and surgery, and its value is by no means fully appreciated or realized.

The injection of fluids into the vessels of the human body to prevent death from hemorrhage is by no means a new measure. Human blood, blood from the lower

animals (plain and defibrinated), alcohol, milk and even mercury has been injected directly into the circulation, and with such unfortunate results that their use is now a matter of little more than history. For more than half a century normal saline solution has been advocated, and its results have been so convincing that the use of all other fluids has practically been abandoned in its favor. There are different methods of administering this preparation, namely: (1) Intra arterial; (2) intra peritoneal; (3) intra venous; (4) rectal, and (5) subcutaneous.

The intra venous, rectal and subcutaneous routes are the ones that have proven to be the most practicable. The procedure in intra venous transfusion consists in disinfecting the surface where the injection is to be made, which is usually into the median basilic vein. Exposure of the vein is made by bandaging the arm above the elbow so as to obstruct superficial venous circulation. Incision over and isolation of the vein, with the application of cat-gut ligatures at either end of the vessel exposed, and ligating the distal end, are the next steps, which are followed by incising the vein and inserting a canula or tube through which is running a hot saline solution. Care must be taken not to admit air into the vein. After transfusion the other ligature is tied and the wound is closed in the usual way. During the operation the finger must be kept constantly on the pulse, and its character must to a great extent decide the amount to be administered. The reservoir should not be over three feet above the patient's head for fear of overpowering the heart, and from one to four pints is the usual quantity employed.

The rectal injection is given in the usual way, and is facilitated by the use of a high

rectal tube, which permits a greater quantity to be taken and retained.

The hypodermic or subcutaneous method seems the most reasonable manner of giving this solution. It consists simply in attaching a needle (such as an aspirating needle) to a fountain syringe filled with the fluid. While the fluid is yet running the needle is inserted hypodermatically into the mammary, interscapular or abdominal region, or the inner sides of the thighs. The tissues with gentle kneading readily absorb the fluid, and I have at one time injected over a pint in this manner. While it matters little which of these three methods is adopted, so long as care is taken, and absolute asepsis is maintained, yet it seems that the subcutaneous injection is the most desirable, because it can be performed quickly and frequently, requires no cutting, causes little pain or disturbance, and can be performed by a trained nurse.

The indications for the use of saline solution are many. It has been most frequently used in emergency practice where either alarming hemorrhage or shock from other causes have rendered the patient alarmingly weak or even moribund; and no one has witnessed its vivifying, animating and immediate effects in such cases without recognizing its value. I have seen it successfully administered on the operating table where death seemed imminent at the very beginning or during the most tedious steps of a major operation; and except for its timely use, where death would have supervened before the completion of the surgeon's work. I have seen its effectual result in shock, the result of contusions to the abdomen, head and other vital parts of the body. Its value from the standpoint of the surgeon seems to be more recognized than

from that of the medical practitioner. And yet it was used extensively during a cholera epidemic in 1832 and 1833, and has since been administered during similar outbreaks. It has been used, and is used to-day, in the various exanthematous diseases, to dilute or cause to be excreted the elaborated toxins. It may have some direct antitoxic effect.

Its use in typhoid fever both to oppose the effects of typho-toxine and hemorrhage was illustrated in my own practice a short time ago. A young man, aged twenty-three, came under my care with a malignant form of typhoid fever. At my first visit I became convinced of the severity of his illness, and ordered his removal to a hospital. The pulse, temperature, and respiration all pointed early in the case to a fatal termination. He became delirious on the eighth day, and on the thirteenth day had the first hemorrhage from the bowels. I concluded to administer normal saline solution with the hope of eliminating and diluting the typho-toxine, and of keeping up blood pressure. I left a standing order with the nurse in charge to inject subcutaneously one pint of normal saline solution at the cessation of each hemorrhage. Within a period of ten days, patient had sixteen hemorrhages and sixteen times did we inject the normal saline solution. Each hemorrhage rendered him almost pulseless, and in addition to his profound degree of intoxication we could offer very little hopes for his recovery. We kept the apparatus and salt solution constantly at his bedside, and lost no time in administering it. With most careful watching our patient made a complete recovery, and is to-day a living monument to the virtues of this expedient.

I believe that in the treatment of severe cases of typhoid fever and other ex-

anthematous diseases, the normal saline solution is an extremely valuable adjuvant, and that the day is not far distant when every practitioner will become familiar with its use, and have at hand the apparatus for its administration. It can be used in the most remote country districts or in the lumber camp, as well as in the most modern hospital or costly residence. It is a remedy that may find an appropriate place in the hands of the surgeon in civil or military life, or with the general practitioner and specialist on any day or at any hour. It can be prepared wherever salt and water and fire are obtainable, and can be administered with a fountain syringe and proper terminals.

In conclusion, let us state that it is not the elixir of life, not an agent that is always successful and incapable of doing any harm, and not a remedy that should be given without careful consideration of the patient's condition. Heart disease, haemophilia, atheroma, apoplexy, chronic diseases of the lungs, kidneys or liver, all contra-indicate its use. Yet so far as observation and experiment go, it does seem to be a powerful stimulant to the heart and to the excretory organs. It is eliminated by the kidneys, skin and lungs, and undoubtedly dilutes and causes to be excreted the poisonous products of disease. It will relieve a patient in collapse more quickly than any other agent I have ever seen used, and it may be repeated frequently with impunity. It can be easily prepared, easily administered, and if judgment is used in the selection of the case, with proper attention to details during administration, it is absolutely devoid of danger. It seems to possess the much hoped for therapeutical trinity of stimulant, anti-toxine and reconstructive, and if every practitioner of medicine and sur-

gery will make use of this simple auxiliary he will be convinced, as I have been convinced, that the administration of normal saline solution is a rational procedure, the reward of which is the prolongation or the saving of many a life.

DISCUSSION.

H. W. YATES, DETROIT.

I think the paper is a very timely one and very happily worded. I wish to call attention to the use of normal saline solution in the treatment of a trouble which the author has not mentioned in his paper, namely, pneumonia, and especially pneumonia of children. I fully believe that the use of saline solution, whether used as a transfusion, as the doctor has mentioned, or rectal enema, is of great efficacy. I have used it in a few cases now, and in two or three of those patients I have noticed marked diminution of temperature when the temperature has been running high for days. Of course, we all recognize that the temperature of children in pneumonia is a variable thing; it runs up one hour and runs down the next, but by constantly watching these patients you can easily tell whether it is alone the fluctuation of the temperature or whether there is not also accompanying it a real change in the condition of the patient, and it is just this that I wish to call attention to, that saline solution in these patients has produced not only a fall in temperature, but the child has assumed a brighter look.

I would like to also mention the necessity for the constant readiness for use of transfusions in obstetrical cases. We never know when we are going to have a hemorrhage; it is impossible to tell; they come on like a thief in the night, and it is impossible for us to get ready after the hemorrhage has taken place, and we should have these transfusion appliances ready in every case.

DELOS L. PARKER, DETROIT.

There is one point in the doctor's paper which, though secondary to the main subject, is yet one of importance. This is in relation to the character of the specific cardiac tonic to be used, when, after the employment of the saline solution, medication to stimulate the heart is indicated. The doctor in his paper speaks of having made use of alcohol for this purpose.

Now, alcohol taken into the system, among other effects, always causes dilatation of the blood vessels, and therefore its use in cases char-

acterized by hemorrhage would tend to increase any bleeding that might be present at the time and also to start anew any other that had been stopped by the presence in the vessels of plugs of coagulated blood.

Caffeine citrate and strychnine sulphate, it seems to me, would represent a class of heart tonics that should take the place of alcohol in this kind of cases.

ALEXANDER M. CAMPBELL, GRAND RAPIDS.

I have been very much gratified with the discussion which this paper has evoked. In regard to the last gentleman, he said that he thinks in those cases that alcohol is not indicated. If I understand the therapeutic effect of alcohol, it produces immediately a constricting effect upon the blood vessels, and the dilatation is a secondary effect. Now in this patient whose case I have related, I used whiskey very freely with him, and I watched for all its ill effects, and it never had any. We used this saline solution in emergencies; each time we used it we seemed to be using it to prevent immediate death. I may be mistaken in my judgment of the effect of alcohol, but if I understand it, it at first produces a constricting effect upon the blood vessels, which is followed by a dilatation of the capillaries.

ANNUAL ADDRESS OF THE RETIRING PRESIDENT OF THE WAYNE COUNTY MEDICAL SOCIETY.*

SAMUEL BELL,
Detroit.

The success of a medical society, other things being equal, may be truly said to be due to the efficiency of its corps of officers, although the unprecedented success of the Wayne County Medical Society during the year just closing cannot be attributed to the above reason. A medical writer, long since numbered with the illustrious dead, said: "It is not of so much importance *where* we are as *whither* we are progressing.

Under the advantages of reorganization, every member of the Wayne County

Medical Society is enabled through his membership to become a member of the State and National bodies. With our new conditions come new responsibilities. With so large a membership, including the best talent of the city and perhaps of the state, it will not be difficult to procure papers and to maintain a high standard of excellence; but a question which will appeal to the officers of this Society the coming year will be, how to make the meetings of value and interest to all.

With a mixed membership composed of a few specialists and perhaps eighty to ninety per cent. of men who must earn their bread and butter by practicing general medicine, can we offer them sufficient inducement to attend the meetings, even though it may necessitate leaving the domestic fireside after a hard day's work, or relinquishing the office at the loss of business, or perhaps the discarding of a pleasant social function? It has been the object of the officers during the present year to vary the program, having papers presented by members making a special study of the different departments of medicine and surgery, in order that at some of the meetings each member would find something of especial interest and benefit to him; however, we have only been partially successful.

OFFICE IN A MEDICAL SOCIETY.

In our large and united organization opportunities are presented for the first time in the history of the medical profession in this city for vastly enlarging the influence of the profession and placing it upon a plane where it properly belongs, as a scientific, sociologic body.

My experience as president of this Society has impressed upon me a very important fact to which I wish to call the at-

* Read at the annual meeting, October 2, 1902.

tention of future officers, and which will apply, not only to the one presiding, but to all, and especially to the executive board, viz: that no one should accept office in the Society who is not able and willing to give enough time to properly perform the duties belonging to said office.

This is a truism which applies with greater fitness in our enlarged society.

SOME REASONS GIVEN BY THE PHYSICIAN FOR NON-ATTENDANCE AT MEETINGS.

A few give as a reason that the papers presented are not of sufficient merit to warrant their spending time in attendance and that in such a large society only a few who are gifted or accustomed to public speaking occupy the time, either by invitation or at their own volition.

Then there is the modest physician, who, when asked to take part, pleads inability on account of routine work or want of time. Others have given as a reason that they have evening office hours and have so many patients that they cannot afford to give from two to four evenings a month to meetings. This latter is a very feeble attempt at an excuse. It is well known that the most regular attendants and active participants in our society are those doing the largest business. I could name several who do an immense amount of work, but can nearly always be depended upon for a paper or interesting clinical case or something of value. From a purely commercial standpoint it does not pay to be absent. A medical meeting is rarely held without an interesting paper and discussion, affording to the rank and file of the profession the only post-graduate course which they will have the opportunity of attending. Those who absent themselves are in the end the chief losers,

as the march of progress in medicine is so great that younger and more progressive and better equipped men will be found successful competitors for business.

But it is not in our province to criticize; we wish simply to point out in a kindly spirit some of the weaker points which we as a profession are too liable to drift into, and to prevail upon this large class of successful practitioners to attend our meetings.

Some of the younger and more timid members of the profession give as a reason that they do not feel competent to read and discuss papers and relate clinical cases before so many older and more experienced men. I do not think that there is any young man with the training which our schools give at the present time, who is capable and possesses the confidence necessary to care for a serious case of illness, who should feel any hesitancy in expressing himself on any subject or case with which he has knowledge or experience.

The person who takes part in a discussion even to a very limited extent will find that the subject has impressed him much more deeply and that he has derived much more benefit than if he had remained a silent listener. I know of nothing better which helps a doctor to get out of his narrowness of mind and heart than frequent association with the members of his profession. I know of nothing which keeps the medical man more under the influence of the "green-eyed monster" than staying at home and holding himself aloof from the meetings of the medical associations, local, state or national. What is more inspiring and uplifting for a young physician or for one of maturer years, than to attend a meeting of the national association and listen to the eloquent and learned

addresses and discussions of men of national renown?

HOW SHALL WE INCREASE OUR MEMBERSHIP?

With some eight hundred physicians in Wayne county, our united societies with all enrolled will include only about four hundred and fifty members. Unless our roll of membership includes every reputable physician in Wayne county, the object of our organization will not be fully attained. However, unless more aggressive measures to that end are instituted than those in vogue at the present time, I fear there are many desirable physicians who will not join us.

We would suggest the advisability of mapping out the county and putting workers in each district who will act in conjunction with the councilor of the first district. Another help is the issuance of a medical directory, showing the changes and increase of medical population. The New York County Medical Association issues one annually, which has been of great value in completing and sustaining organization.

BENEFITS OF SOCIAL ENVIRONMENT.

The Wayne County Society has ever been a quasi-social organization. I do not see any valid reason why this very desirable feature should not be continued, with perhaps a little more system. Occasionally spending the whole or part of an evening in a social way is not incompatible with the very best scientific work. The methods pursued in the past have not been unsatisfactory. Some societies have adopted the plan of spending in this way the whole or part of an evening every three months. Our treasury for this year will not contain sufficient funds to pursue such a course, if desired, as one dollar a year

per capita will not enable us to do much entertaining after paying extra incidental expenses.

HOW SHALL THE TALENT IN OUR SOCIETY BE UTILIZED TO THE BEST ADVANTAGE?

This is a question which needs more than superficial thought. During the past few years the medical profession of this city has received many valuable accessions, among them young men from the best institutions of this and foreign countries. In order to encourage and give opportunity for original workers, allowing more time for specialization, it has been suggested that sub-societies or sections be formed in such a manner that more effectual work could be prosecuted without detracting interest from the general meetings. Papers could be presented and cases reported in sections, which would necessitate greater detail and amplification; and those which would be of interest to the general meeting could be presented after the members in their respective specialties had had them under consideration.

This subject will require attention in the near future. Another method of arousing the latent energies of our more ambitious younger members and a method adopted by some societies both in the East and West, is the selecting of a subject of general interest by a committee for which competition is asked from members within the society, the successful competitor to be awarded a prize which would be some remuneration for time spent in preparation, together with the honor connected therewith.

While this method of drawing out the talent within ourselves might be considered as an innovation or an experiment in the Wayne County Society, I believe it is not without merit and worthy of careful

consideration. The money necessary could be readily secured.

LIBRARY FACILITIES.

Are our library facilities ample for the proper prosecution of the science and art of our profession?

With the large supply of local talent which our society possesses at the present time, ought we not to expect some original work or investigation?

It is a great treat to have men come from other cities who have done something more than ordinary, and entertain and instruct us for an evening, but we want to encourage and assist our own talent. From my knowledge of the profession in other cities of similar size, the members of our profession will rank quite as high either collectively or individually. Our library facilities are not what the commercial growth and prosperity of the city would warrant. If one wishes to pursue some original line of study, he is compelled to go to the State University, which necessitates time and expense which he can ill afford. In our city of Cleveland the profession own a library building containing 10,000 volumes, 200 journals and employ a librarian.

Our medical library consists of less than 5,000 volumes and 65 journals, a large number of the latter being contributed by local physicians, the location being in our public library. Reports show that it is but poorly patronized, which is either on account of lack of interest or insufficient material. Under our new conditions and with our increase in numbers, it seems an opportune time for action.

We might establish a fund by private subscription. Every physician in Wayne county could give one dollar; many could and would be willing to give much more.

By this method alone a nucleus would be formed which would encourage and attract endowments.

The medical fraternity throughout the state are looking to us, the largest and most powerful organization, as an example. Questions of public policy should receive our attention and our united support when worthy, and our condemnation when conditions warrant.

I wish at this time to speak of one field in which we as a profession can be of benefit to not only this, but future generations. The question of "Forced education in our public schools" comes up once in a while in our societies; but only recently has there been a thorough scientific investigation, showing the effects of school life upon development. I refer to the very exhaustive report made by Dr. W. S. Christopher based upon measurements made under the direction of the child study department of Chicago's public schools, showing the relation of unbalanced physical development to pubertal morbidity.

The age at which most rapid development takes place in both sexes; the difference in the influence of our method of education on the sexes; whether uniformity of studies is what is needed; these are questions of vital importance to every member of the profession as conservator of the health of the community.

There is an exaltation of the processes of life at this period which finds its expression in greater physical strength and increased mental power. It is at this period of life that the neuroses, psychoses, neurasthenias, cardiopathies, deformities and anemias of puberty are the chief morbid manifestations.

Here is a field for study and observation in which the different specialists could labor on common ground. Where statis-

tics are obtainable it is a pretty well established fact that the great army of neurotics and insane is on the increase, also the class which fills our reformatories. Very many of those filling our institutions at the present time manifested evidence of a defective condition during school life.

For the first time in a quarter of a century, or more, we have a united profession. We sincerely trust and hope that the evidence of already existing *entente cordiale* between the different members of the profession, since coming together in our new relations, will continue, and that the spirit of good fellowship will be felt everywhere; it will do much toward uniting the bonds of the profession.

In conclusion, I desire to thank the officers and members, collectively and individually, for their loyal support during a very eventful year in the history of our society.

ABDOMINAL AND PELVIC DRAINAGE RELATIVE TO GYNECOLOGY.

O. H. CLARK,
Kalamazoo.

Common sense teaches us and surgical experience demonstrates that the methods and means of abdominal and pelvic drainage at the present time are either faulty and imperfect in their application or the principles involved as applied to surgery are wrong.

We have, on the one side, eminent abdominal surgeons who to-day honestly believe, teach and practice that in all septic cases drainage in some form or other is indicated and is an absolute necessity for the welfare of the patient. On the other hand there are equally distinguished gynecologists who question the efficacy of drainage in all forms, and by clinical and

scientific experiments and research have demonstrated beyond a doubt (in their own minds), even in septic cases and when pus is found, not only is drainage valueless in a great majority of cases in which it formerly was used, but is in itself dangerous and frequently, if not always, a means of infection.

The conservatives follow the old school and uphold drainage—the liberals, or more advanced surgeons, say “do not drain.”

It is certainly often very perplexing and embarrassing and a source of great anxiety to the young surgeon, at least under the present teaching, which course to pursue in certain cases, and we not infrequently see him turn during the operation and ask his colleagues the question, shall we, or shall we not drain?

Twenty years ago Sims recommended systematic drainage in every ovariectomy, and it was almost the universal practice up to within a decade. To-day where do we stand on this issue?

Perhaps we may get a better understanding of the subject of drainage by a logical process of exclusion and inclusion. Of the former class I can say without fear of contradiction, that in all abdominal and pelvic operations in which infection is not present, this question is settled—drainage is not indicated and should not be employed under any circumstances. I might add to this class also those septic cases in which the diseased parts and infection can be removed by dissection without contaminating the surrounding tissue or organs. For example, appendicitis, septic ovaries, pus-tubes and intraperitoneal abscesses. The latter class, or those cases in which the abdominal or pelvic inflammation has been in progress for a considerable length of time, tumefaction has taken place, is walled off, localized, and cannot be enu-

cleated; and also purulent peritonitis in which suppuration is extensive: open, wash out, drain with gauze either through the vagina or abdominal wall (the former is always preferable when it can be done) would be good surgery and perhaps the consensus of opinion to-day.

On the border line, however, between these two general classes the main question of controversy is whether to drain or not drain, and perhaps the majority of operations are included in this group.

In the removal of a pus-tube, it is ruptured, the peritoneum is infected, or perhaps there is a small perforation in the appendix and pus has leaked into the abdominal cavity, or in the dissection of a pelvic inflammatory mass, it is torn and contents poured into the cavity. What is to be done in this class of cases with reference to drainage? Zweifel has long protested against the use of drainage in all forms, and insists "That it is dangerous and should be relegated to surgical history."

Clark, of Johns Hopkins Hospital, in his admirable paper in the *Journal of Obstetrics and Diseases of Women*, after a careful review of seventeen hundred cases of abdominal sections, with special reference to drainage, says: "By clinical observations the conditions supposed to demand drainage have been gradually reduced from a formidable number to a comparatively small one, and I am certain that this number is still too large; that I am unable in some cases to make it better is true, but in many cases a more minute attention to the smaller details of surgical operations with a greater reliance upon the ability of the peritoneum and general system to eliminate infectious matter, will overcome many difficulties which are now incorrectly supposed to be obviated by drainage."

With reference to the gauze drainage, Drs. Miller and Clark say, "After careful bacteriological examination of sixteen drains it was proven that in not a single instance was the entire piece of gauze free from organisms."

One of the foremost authorities on this question, it will be generally admitted, is Dr. Howard Kelly, of Baltimore. He speaks with knowledge. He tells us: "My clinical work, combined with bacteriological research on the infection of the tube tract convinced me that the glass tube was often powerless to remove fluids from the pelvis and was a source of great danger as a channel of infection of clean wounds. The glass tube was therefore unconditionally abandoned. I still felt the necessity of providing some means of eliminating fluids collecting in the peritoneal cavity and so adopted and used the Mikulicz gauze bag. This proved no more efficient than the simple gauze drain, which was next used and only in infected cases; and no cases were drained simply because of the numerous adhesions, separated and raw surfaces left behind. When pus was found and the microscope showed the entire absence of organisms, the drain was not used. When the gonococcus was found the drain was never used under any circumstances. When the staphylococci and colon bacillus were found in no great numbers the drain was not used. When the staphylococci and colon bacillus were found more abundantly, and the streptococci was found in moderate numbers, a drain was used—but a further study of the gauze drains in the few cases in which I was then using them, led me to the conclusion that they also usually became infected after operation through the opening left in the incision, and that this infection might occasionally give rise to a serious and even fatal result." In conclusion he says, and it is emphasized by italics, "Of my last one hundred cases not one has been drained."

OBJECTIONS TO DRAINAGE.

First.—It defeats the object for which the surgeon intended it, viz: to give a free exit for pus, serum and infectious matter. A small quantity of fluid may be removed during the first few hours, after which the drain acts as a plug and prevents the outflow.

Second.—It is a foreign body and acts

as an irritant, increasing the exudate and weakening the natural power of the peritoneum to eliminate poisons.

Third.—The drain soon becomes saturated with small blood clots and coagulated serum and becomes a good culture medium for the development of bacteria.

Fourth.—The wound is almost invariably infected sooner or later, producing a suppurating sinus which may persist and discharge for months.

Fifth.—Gauze drain is often very difficult to remove, and hemorrhage may follow.

Sixth.—The abdominal wall is weakened and hernia is one of the sequelae in about eight per cent.

Seventh.—Healing of the wound is greatly retarded, necessitating the process to go on by granulation.

Eighth.—Great pain sometimes follows the removal of the drain and serious accidents may occur, loops of intestine and parts of the omentum may be dragged out of the abdomen.

Ninth.—Fecal fistula may be one of the complications arising from drainage.

Bearing these objections in mind, and considering the facts demonstrated by Kelly, Waterhouse, Clark and others, of the imperfection of drainage, is it not time to call a halt, and carefully consider the prevention and removal of infectious matter without the employment of the drain?

No preliminary preparation requires more care than the proper cleansing of the hands and field of operation. Rubber gloves should be insisted upon in all cases, as no amount of scrubbing and antiseptics can rid the hands, especially the spaces under the finger nails, of all bacteria. The preparation of the patient should be executed by a nurse who has had special training along this line, and should be begun at least twenty-four hours preceding the operation.

Too many assistants always increase the liability of infection. One, perhaps two, is sufficient. Handling the intestines and bruising and injuring the peritoneum lowers the vitality of these tis-

ues and furnishes good ground for the growth of micro-organisms. All raw surfaces should be covered with peritoneum as far as possible. No bleeding wounds should be packed to control hemorrhage. A bit of gauze on the end of a pair of forceps will better remove infectious material (when it has escaped into the abdominal cavity) and blood clots, than saline flushings. The greatest care, however, should be exercised in preventing this accident.

The successful abdominal operator, and the one who will receive the highest reward and achieve the most fame, is not the so-called brilliant and rapid operator—but rather the one who is patient, painstaking, careful in all the technique surrounding the operating table, careful in his dissections, that the cavity may not become infected, and above all heeding the use of the drain.

Kelly says: "Drainage is a confession of imperfect work on the part of the surgeon." I am a firm believer in the truth of this statement, and it has been demonstrated over and over again in abdominal surgery that the peritoneum can and does dispose of large quantities of fluid and infectious matter.

Drainage is still too frequently used, and the supposed benefits derived therefrom are a delusion and it has been proven a snare for the development and propagation of bacteria.

REVISED CONSTITUTION AND BY-LAWS FOR COUNTY SOCIETIES.

That there may be a uniform standard of principles and a uniform method of work, the attention of the members, especially in the counties in which a County Society is not already chartered, is called to the revised Constitution and By-Laws prepared by the Chairman of the Council and the Secretary of the Society, for adoption by the County Societies (page 142).

The Journal of the Michigan State Medical Society

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A. P. BIDDLE, M. D., Detroit.....Editor | S. EDWARD SANDERSON, M.D., Detroit, Bus. Mgr.

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DETROIT, NOVEMBER, 1902

OLD MEN IN STATE MEDICAL ORGANIZATIONS.

An organization of the medical profession must include the young, the middle aged and the old. Abundant provision has been made for the first two classes, but little, if any, for the last.

Those interested in professional organ-

ization do well to study the influence of old men. Is it possible to have this influence helpful to the end of their lives? If so, how?

The facts are that non-payment of dues is followed sooner or later by dropping from the roll of membership. If this occurs during the productive period of professional life, none can complain, and such

members—if it is impossible to change their habit in this regard—were better dropped. But when the non-productive period is reached, with no great surplus for actual necessities, the question is different.

We will assume that all old members would be glad to continue their membership; would like to meet their fellows on equal footing, to point with pride to *their* State society, and to discuss its past deeds, its present plans and future prospects with young medical friends. Under the conditions mentioned, their names are stricken from the rolls, and the State society knows them no more, and they know it only as a memory. Some who are not philosophical resent the action as an injustice, as undeserved. Brooding over it in secret, as they are too proud to make their feelings public, they become soured, pessimistic, inclined to make the most of every mistake of the society, and to advertise it unfavorably to their medical friends, and especially to the younger ones. They form foci of infection, and both weaken existing organization and retard the normal growth and development of all.

The remedy is simple, as shown in the organization of the Michigan State Medical Society, viz: to place them on a roll of honor. This is done with such restrictions that the unworthy are excluded and the list made literally a Roll of Honor. All privileges of membership are retained, but no dues exacted. With such conditions there is no reason why all workers in an organization may not remain therein till unable to answer the roll call.

The writer has so frequently observed the evils of past methods in dealing with this class in the profession, that he urges others to study it and to do what they can to effect their removal.

The keynote of real organization is mutual helpfulness, beginning at the so-called top and permeating to the foundation—the individual doctor. There is no question that the extension of this spirit to the class under consideration would receive such a response as greatly to profit state medical organization.

LEARTUS CONNOR.

INTERMITTENT ESSENTIAL FEVER.

Intermittent essential fever is a late syphilitic pyrexia and is not the fever which begins with or shortly after the secondary rash of syphilis has appeared. It may occur many years after the primary stage. For instance, one of Dr. Sidney Phillips' cases had no pyrexia (syphilitic) until ten years after the initial sore.

This late fever of syphilis is of interest for several reasons—first, because it is by no means uncommon; second, because so little is written concerning it; third, because with a correct diagnosis the fever can be controlled and the patient freed from its disagreeable companionship.

The type of fever, as its name would indicate, is usually intermittent, though at times it is remittent. When it is of the former type it has to be diagnosed from tertian or quartan malaria and pulmonary tuberculosis and, when of the latter, from typhoid and other continued fevers.

Differential diagnosis—(a few points).

A. *Intermittent Form.*

Malaria.

1. History:

Whether patient has been living or lives in a malarial region.

2. Blood examination:

(a) Leucopenia.

(b) Malarial parasites in blood.

3. Therapeutic test:

- (a) No response to mercury or potassium iodide.
- (b) Quinine or arsenic controls disease.

4. Sputum examination:

No tubercle bacilli.

Pulmonary tuberculosis.

1. History:

- (a) Family,
 - (b) Personal,
- May help one.

2. Blood examination:

- (a) Leucocytosis.
- (b) No malarial parasites in blood.

3. Therapeutic test:

- (a) No response to mercury or potassium iodide.
- (b) Quinine or arsenic:
No effect.

4. Sputum examination:

Tubercle bacilli may be found if carefully looked for.

Syphilis.

1. History:

History or signs of other syphilitic lesions.

2. Blood examination:

- (a) Leucocytosis.
- (b) No malarial parasites in blood.

3. Therapeutic test:

- (a) Fever responds to potassium iodide or mercury.
- (b) Quinine or arsenic:
No effect.

4. Sputum examination:

No tubercle bacilli.

B. *Remittent Form.*

Typhoid Fever:

1. History:

Where patient has been living or lives.

2. Blood examination:

- (a) Leucopenia (as a rule).
- (b) Widal reaction
May be positive.

3. Typhoid bacilli:

May be found in stools or in blood.

4. Therapeutic test:

Fever does not respond to potassium iodide or mercury.

Syphilis:

1. History:

History or signs of other syphilitic lesions.

2. Blood examination:

- (a) Leucocytosis.
- (b) Widal reaction
Negative.

3. Typhoid bacilli:

Not found.

4. Therapeutic test:

Fever responds to potassium iodide or mercury.

Evidence of syphilitic choroiditis, syphilitic periostitis, syphilitic arthritis, syphilis of the lungs, or gummatous deposits some where can be found at times if careful examination is made.

Treatment.—This is very satisfactory. As a rule the fever falls quickly, sometimes within three to seven days after proper treatment is begun. Whether the iodides control the fever more quickly than does mercury is still a matter of dispute, though the majority of clinicians favor the use of the former.

GUY L. CONNOR,
Detroit.

The Secretaries of the County Societies are requested to send in for publication all matters of interest to their members.

THE COUNTY SOCIETY A UNIT.

That the medical profession has awakened to the necessity of organization is already apparent from the successful work in this state. That more missionary work, however, is needed is felt from the objections raised in some quarters as to the necessity of making every member of the County Society not only eligible to membership in the State Society, but an actual member thereof. Objection is raised that coercion is used, that a physician is forced to join the State Society whether willing or unwilling; and it is claimed that he should have the right of membership in his County Society without being obliged to join the State organization. Were such a hybrid state of affairs permitted, it would destroy the very purpose of organization; we would be no better off than we were before. As soon as a County Society is chartered it becomes a branch of the State Society and it would be impracticable to have members in its branches who were not members of the parent organization. We want the individual member of the profession interested; we hope to show him that the things which affect the profession as a whole affect him individually and that he should interest himself in medical affairs for his own good. Besides, it would be impossible to keep in organization a County Society in which some of the members could vote and others could not vote for delegates to the State Society, and on other matters in which they should have an equal voice. It must appeal to every physician that his work for good must not be limited to his own town, city or county—that he must rise above local conditions and add his strength and influence to the common good. He cannot do this by remaining obscure, unknown

save in his locality, by being a member of a county society only, but he must be an active member of the State Society and by his presence and voice, or by his duly accredited representative, make his wants known and his influence felt. It is only by such union of interests that we can expect to attain the results desired; to be strong as a national organization we must be strong in all parts; the local profession must be well organized and duly represented in the higher societies. By effective organization we hope to attain higher standards of medical education; similar medical laws and requirements and reciprocity among the states, representation in national affairs in which the profession is vitally interested, such as quarantine regulations, etc.

The county society is our unit. Its members must have equal privileges, equal opportunities, equal representation. It cannot be so with its membership divided. Every member is by virtue of his membership not only eligible to membership in the State Society, but is an active member thereof.

THE PRESENT STATUS OF THE BILE QUESTION.

Until recent date it has been accepted by the medical profession and taught by physiologists that the bile was a secretion necessary to digestion, and that for the continuance of good health it must be poured into the duodenum to perform its digestive function. It was also believed that the amount secreted between the periods of taking food was stored up in the gall-bladder, to be expelled at the time that food would be taken again. Recent investigation by Dr. Angus McLean at Harper Hospital, Detroit, first reported in

The Medical Age for February, 1902, has proven that both of these theories are somewhat incorrect. While it has been shown that a portion of the constituents of the bile, "the bile acids," do have some action on the fatty substances in the food, it has also been demonstrated that other constituents of the bile, cholesterin, etc., pass through the intestinal canal without being changed in any particular.

The bile is now looked upon largely as an excretory product, the liver acting as an excretory organ; for, when the bile escapes through a biliary fistula, there is little interference with health. It has also been demonstrated that the biliary flow is continuous, that only a small percentage of the bile secreted between meals can be stored in the gall-bladder, and that the gall-bladder is not a necessary appendage, for health is just as perfect after its removal as before.

These principles are not in accordance with the teachings of the older physiologists, but appear to be well supported by recent investigations on the action of bile as well as with experiments on the biliary flow.

SEE THAT YOU ARE REGISTERED.

THE JOURNAL believes the following paragraph, from the *Journal of the American Medical Association* of October 18, 1902, to be of considerable importance:

"A case recently occurred in this city, says the *Peoria Medical Journal*, which strongly emphasizes the need of physicians attending to the matter of registering their certificates under demands of the law. Dr. H. T. Thomas, who has been practicing medicine here for fourteen years, found it necessary to sue for a claim for professional services; but when the case came to trial he was surprised to find that he had absolutely no standing in court, not having registered his certificate, and was in addition mulcted in a considerable sum assessed as costs."

Communications.

OUR WORK OF ORGANIZATION.

In his annual address at the Port Huron meeting of the Michigan State Medical Society, the retiring president, Dr. Leartus Connor, gave us a lucid résumé of the history of the society from its organization, 1819, to the present time, a period of eighty-three years with but two interruptions, 1851 to 1853 and from 1860 to 1866. It is plain to be seen that its inception originated with a few liberal minded physicians, who were desirous of uniting the interests of medical men into a society for the purpose of self-culture, the broadening of their medical, surgical, moral, social and legal standing, and to impress upon every community of the territory the benefit to be derived from such an organization in the alleviation of human suffering, and in the forming of proper laws relating to public health. Those who heard this excellent address, and those who may read it in full in the journal of the society, can but be impressed with the fact that never during its long and honored history has there been, comparatively speaking, but a very small percentage of the members of the medical profession of the state enrolled as members of the organization. That this society should have prolonged its long and honored existence and maintained its pre-eminent standing is certainly a marvel to the medical profession of the state, and speaks in language plainer than I have the ability to write the mettle of the men who made up its membership.

It is evident that, if these few faithful and self-sacrificing physicians did build up and maintain such exalted ideals to regulate and to guide our professional conduct, that we may expect much if we band together into one harmonious whole the 4,500 physicians of our state. For years our medical societies and journals have been advocating the importance of a thoroughly organized medical profession. But the profession was deaf to the appeal, was apathetic and was not to be aroused even by an appeal to its own interests. But, thanks to the perseverance of such men as McCormack of Kentucky, Simmons of Chicago, Reed of Ohio, Connor of Michigan, and a host of others, whom I might here mention, who were actuated by one common purpose and the genuine belief in the future greatness and exalted dignity which our chosen profession should occupy, the appeal has been heard at last.

In 1901 at the St. Paul meeting of the American Medical Association a new era dawned upon the medical profession of the country. A plan

was devised and immediately adopted whereby the whole medical profession should be organized. This plan first embraced the reorganization of the American Medical Association, then to extend to the whole profession of the United States, embracing every state, and placing each state in harmony with the national body. The state medical societies are to be made up of active county medical societies, which are to be the real life and energy of the medical profession of the state.

Acting upon the recommendation of the American Medical Association, the president of our state society, Dr. Connor, appointed a committee of three members to formulate a new constitution and by-laws to conform to the new plan of organization. After many meetings of this committee the work was finally completed and submitted to the state society last June. The plan carried with it a new organization of the State Medical Society in its entirety. It also provided for the organization of a County Medical Society in each county in the state; provided that these county societies shall be a component part of the state organization, and that every physician must be in good professional standing to hold membership in it and in the American Medical Association.

In this connection I may say that I find quite a belief among the members of the old society that, if they pay the annual dues to the society, they can hold their membership and not necessarily be in affiliation with the county society. The constitution expressly states that the membership in the various county medical societies, reported by the secretary of the same to the secretary of the state organization, shall constitute the membership of the latter.

To the happy surprise of the committee on reorganization its report was unanimously adopted by the society with such additional changes made in the report as in the judgment of the committee seemed essential for the completion of the work of organization of the State Medical Society. An important change was the reduction of the yearly dues from three dollars to two dollars, to be paid to the secretaries of the county societies, and by them to the secretary of the state society, by an assessment per capita. Provision was also made for the transactions of the society to be published in journal form and furnished to each member of the organization without extra cost. The importance of having a representative state medical journal needs no comment. With the active co-operation of the medical profession of our state it will stand as the exponent of advanced medical thought and fulfill a long-felt want to the profession of the state.

To the board of councilors, provided for in the new organization, consisting of 12 members, one for each of the congressional districts, is given in particular the organization and nurture of the county societies. The work they have done up to the present time is certainly gratifying. It is marvelous to contemplate the zeal, enthusiasm and hearty co-operation the profession of the state has manifested in its support of the plan as adopted. It only emphasizes the fact that when this great body of physicians is brought to realize the fact that "to meet the requirements of public sentiment and to stand abreast with advanced medical thought and lofty professional ideals, it must appropriate the spirit of the age and organize, if it expects to make an impression upon organized society; that to stand alone, no matter how meritorious his professional ambitions and work may be, the physician can accomplish but little in the progress of human activity."

The medical profession of our state has been a most potent power for good in every community. But we all well know the exercise of that power has never been brought into operation in behalf of those great problems concerning the best interests of the medical profession and public at large. Its influence has been latent, for the reason that there has been no well organized effort and has been beset by many petty differences of opinion among its membership. Had the 4,500 physicians of our state stood shoulder to shoulder as one in interest at the time the medical bill was before the legislature, they could have wielded an influence which would have forever precluded the possibility of that body ever recognizing that small band of deluded disciples of "Christian Science" and that other product of a simple, ingenious theorist, osteopathy, on an equality before the law and made them respectable.

Why is it that after eighty-three years of faithful labor as physicians among the people, "our influence is so transient, so feeble, that the most absurd fad, the most hair-brained delusion, the most fantastic fraud which comes along, spreads its pernicious poison among our people like that of a prairie fire?" In our addresses and after-dinner speeches we boast of our educational influence over the masses, yet how much weight do our opinions as medical men amount to in public matters, and with what indifference do those who make our laws listen to our protests and suggestions?

The dawn of better things is now, however, upon us, "a new era of medicine." By the action of the last meeting of our State Medical Society

we have "drifted so smoothly into the tide that we have hardly noticed a jar," and when we realize what has happened we at once discover that we have really drifted unconsciously into the current of medical evolution and professional advancement.

To crystalize and perpetuate this most exalted position demands organized effort in every county in the state. This united action of the profession of our state is an absolute necessity at this time. It is left for our decision at once to enter the golden fields of promise and to possess it, or to drift into ignominious failure and remain a passive factor, as we have been so long in the past. The old State Medical Society was the mouthpiece of a little more than 600; the new should be the mouthpiece of more than 2,000 the first year of our organization. To-day the county medical society is the chief center of interest, as through it only can a physician become a member of the state society and of the American Medical Association. The county society must be the sole judge of the eligibility of membership. It is a component part of the state society. Around it must center the strength and professional ability of every physician within its jurisdiction. It must be made strong and representative in every detail.

There is quite a difference of opinion among the physicians of the state regarding the term "eligibility," "sectarian medicine," etc. See Chap. XIII., Sec. 5, of By-Laws, which reads: "Every reputable and legally registered physician who is practicing, or who will agree in writing over his own signature to practice, non-sectarian medicine only, and to sever all connections with sectarian colleges, societies and institutions, shall be entitled to membership."

The code of medical ethics is the mighty superstructure of our reliance and support. Ignorance and superstition have flamed against it, dissensions have dared to break it down, but it still stands the "beacon light" of the grandest profession the world has ever known; a safeguard to you and me. May it stand, as it will stand, as the true guide of our professional conduct until rational medical research can offer something which is better.

My own desire is to see an organization which will draw to its councils every reputable medical man and woman in our state. Men and women who are known *not* because of any so-called "pathy," but for a broad and liberal knowledge of medicine as a true science and an art.

There are many physicians in our state who are deluded and who would sacrifice almost anything

to get out of the rut in which they are struggling. Let us do what we can to help them; let us hold up the "beacon light" of rational medicine; let us impress them with the fact of the utter falsity of a "partial system" of medicine and spread abroad the effulgent rays of the glorious future of the medical profession on this, the dawn of the 20th century.

A. E. BULSON,

President Michigan State Medical Society.

County Society News.

At the afternoon session of the Jackson County Medical Society, held at Jackson, October 14th, 1902, the following papers were presented:

"Typhoid Fever," A. J. Roberts, Jackson; "The Omentum," W. H. Haughey, Battle Creek; "Appendicitis," C. D. Munro, Jackson; "Infantile Ophthalmia—Purulent," J. F. Wesch, Jackson.

The evening session was given up to the consideration of a paper on "The Use and Abuse of Uterine Curetting," by Reuben Peterson, Ann Arbor.

The Houghton County Medical Society met at Houghton, October 6th. The meeting was well attended. The program for the evening was as follows:

1. Report of Case and Presentation of Patient. J. Wendell Clark, Calumet.
2. Empyema. A. I. Lawbaugh, Calumet.
3. The Blood Changes in the Diagnosis of Pernicious Anaemia. Simon Levin, Lake Linden.

The Wayne County Medical Society is in a flourishing condition; nevertheless, the officers are working with enthusiasm to increase its already large membership and to encourage present members into more active participation in its meetings. The Society meets on Thursday evening of each week. During October papers

were presented by H. W. Longyear, David Inglis, L. J. Hirschman, H. E. Saford, C. G. Jennings, and Geo. E. McKean. In order to further the interests of members, it is now proposed to do a certain amount of the Society's work in sections, along the lines followed by the American Medical Association and by many state medical societies. In a society so large as the Wayne County this is much to be desired and will add greatly to the benefits to be derived from membership in the Society. The definite plan of this re-arrangement will be announced later.

Report of Committee on Necrology.

Your Committee on Necrology herewith submits its report on the death of nine members of the society.

Of this number eight died within the year, one having died in 1900, but not heretofore reported.

The last death coming to the notice of the committee was one of its own members, Dr. C. F. Morgan, of Greenville.

The chairman regrets that he has been unable to secure the aid of fellow-members of the committee; and also that it has been so difficult, in some cases impracticable, to get from friends material for biographic and professional memorial sketches, which fact must be accepted as the reason for brevity of some of the notices.

The committee is in doubt as to its right, or discretion, to include in its report mention of members who for many years had been active in support of the society, but by reason of advancing age or illness had been unable to keep up attendance or active relations with the society the past year or two. The committee would suggest that the society express opinion on this point. The renewal of lapsed membership of the living member is now provided for by recent action of the society. Is it not equally appropriate to offer a similar privilege of respect to the memory of the deserving dead?

WM. F. BREakey,
For the Committee.

..In Memoriam..

DONALD SINCLAIR CAMPBELL,
1857—1901

ANDREW BLISS CHAPIN,
1839—1902

R. ARTHUR CARMAN,
1866—1900

A. PHILO DRAKE,
1828—1902

CHARLES N. HAYDEN,
1832—1902

C. A. JOHNSON,
1857—1902

CHARLES F. MORGAN,
—1902

HORACE TUPPER,
1830—1902

OSCAR E. YATES,
1845—1901

GEO. F. HUNTER,
—1902

DONALD SINCLAIR CAMPBELL,
1857-1901.

Donald Sinclair Campbell was born February 18th, 1857, in Glengarry County, Ontario, his grandfather, Malcolm Campbell, being one of the pioneers. He was educated at the High School in Alexandria, Ontario, at Woodstock Baptist College and Toronto University, and took his medical degree at the University of Michigan with the class of '77. He then spent a year or more in post-graduate study in Edinburgh and London under Sir Morrell McKenzie; then began general practice in Wilson, Niagara County, New York, and later was elected president of the Niagara County Medical Society. In 1885, after spending six months in post-graduate work in New York, he located in Detroit, where he practiced his specialty of the ear, nose, throat and lungs, until his death, Dec. 17th, 1901, from typhoid fever, after a short illness. In accordance with his wishes, the remains were cremated. Funeral services were under the auspices of Damascus Commandery No. 42, Knights Templar, the bearers, all physicians and personal friends, being chosen jointly from Damascus and Detroit No. 1. He was married in 1880 to Miss Frances Bailey,

of Wilson, N. Y. The doctor was one of the leading practitioners of Michigan in his specialty, and an old member of the State Society, joining in 1886; also of the Detroit Medical Society, the American Medical and American Electro-Therapeutical Associations. He was a genial, whole-souled friend and a practitioner of great ability.

The committee acknowledges the kindness of Dr. F. B. Tibbals in furnishing the foregoing sketch of the life of Dr. Campbell.

ANDREW B. CHAPIN.

1839-1902.

Andrew Bliss Chapin, of Mt. Clemens, Mich., son of Elam and Sarah Lavancha (Davis) Chapin grandson of Jonathan Chapin, was born April 5th, 1839, at Shelby, Mich. After receiving a common school education he attended the academy of Colonel Keeler, Disco, Mich., and commenced the study of medicine in 1858 at Disco with Dr. James N. Cole; attended two full courses of lectures at the department of medicine and surgery of the University of Michigan, from which he was graduated in March, 1861; also attended post-graduate lectures at Bellevue Hospital Medical College and College of Physicians and Surgeons, in the city of New York, 1875 and 1876. He commenced the practice of medicine December 9, 1861, at Flint, Mich.; was appointed September 12, 1862, assistant surgeon, U. S. Volunteers; had charge of St. John's College Hospital, Annapolis, Md., in 1863; went up the James River with General Butler, May, 1864, in charge of a brigade of batteries, and later was transferred to Kautz's division.

Dr. Chapin was professor of materia medica at the Michigan College of Medicine in 1885, and general pathology in 1886. He was a member of the Michigan State Medical Society from 1866, and vice-president in 1874; member of the American Medical Association; member of the school board, Flint, Mich., in 1874; mayor of Mt. Clemens, 1891; county physician in 1890, and member of the pension board of the district about the same time. He had full charge of the small-pox hospital in Chesapeake bay, in 1863. Dr. Chapin wrote an article on the "Treatment of Epilepsy," which was published in the *Detroit Lancet* about the year 1882. He died March 9th, 1902.

The committee is indebted to Dr. W. F. Berry for the above sketch of Dr. Chapin.

R. ARTHUR CARMAN.

1866-1900.

Dr. R. Arthur Carman was born on a farm near Flint, March 27, 1866; was educated in the Flint public schools; graduated from the Mich-

igan College of Medicine, March 23, 1897; taken sick with pneumonia in May, 1900; suffered a relapse, which terminated in tuberculosis, and died July 12, 1900. He commenced the practice of his profession in Saginaw, E. S., in May, 1897. It was said of him by old physicians then: "No young doctor ever made friends with all the other doctors, and worked up so large a practice in so short a time as he."

A. PHILO DRAKE.

1828-1902.

Dr. Drake was born July 31, 1828, near Palmyra, N. Y., and died March 10, 1902. He removed to Washtenaw County, Mich., when a young boy and lived on a farm until sixteen years old. His early determination to study law was abandoned, and he turned his attention to the study of medicine, remaining three years at a medical college in Cleveland, Ohio. He received his degree of M. D. from that institution in 1850, and began the practice of medicine in Wisconsin, but removed to Hastings, Mich., two years later. None knew better than he the arduous labor of a pioneer physician. He trod the self-denying path of duty, undaunted by summer's heat or winter's cold, fearless alike of praise or censure.

During 1855, '56 and '57 he was employed in making government surveys in Nebraska. In 1864 he entered the military service as surgeon of the New Third Mich. Vol., and for many of the last years of his life he was secretary of the pension examining board at Hastings.

Slow to recognize or acknowledge his own ability, he was a profound student of medicine, a close analyzer of disease, and ambitious to keep in touch with the progressive spirit of the age. He was broad in his character and genuine in his sympathy.

For the above tribute we are indebted to the *Hastings Herald*, March 13, 1902. Other portions of the memorial sketch, not especially pertinent to a medical biography, showed that the doctor was held in high esteem as a citizen and enjoyed in large measure the confidence of the community in which he passed the greater part of the ripper years of his life.

Dr. Drake was elected to honorary membership in this society in 1899, and was the only honorary member resident in the state.

CHARLES N. HAYDEN.

1832-1902.

[Abstracted from *Lansing State Republican*.]

Dr. Charles N. Hayden was born at Sodus, N. Y., October 12, 1832, of New England parent-

age. At the age of fourteen he came with his parents to Michigan and received his early education in the schools of this state and graduated from a medical school in Cincinnati before he was twenty-one years old. Later he obtained diplomas from a medical school in Cleveland and from the Rush Medical College, Chicago. (The Medical Register gives Dr. Hayden as a graduate of the Cleveland College of Physicians and Surgeons.) In October, 1854, Dr. Hayden was married to Mrs. Mary Baldwin, in Charlotte, both being residents of Onondaga. Dr. Hayden came to Lansing in 1876 and lived there till his death in April last. He built up a large and active practice. His health had been poor for some years preceding his death. He was a member of the board of examining surgeons for pensions during President Cleveland's administration. He was a member of St. Paul's church and of Jackson Commandery, K. T.

C. A. JOHNSON.

1857-1902.

Dr. C. A. Johnson was born June 2, 1857, in Grand Rapids, Mich., where he passed the earlier part of his life. After completing the work of the city schools, he graduated from the Business College. He was in the grocery business awhile; then he went to study medicine at the University of Michigan, from which he graduated in June, 1889. He went to Grand Rapids, where he was appointed house physician of the U. B. A. Hospital, and after serving in this capacity for one year was appointed surgeon for the G. R. & I. Railroad Co., with location at Mancelona, Mich. He was also surgeon for the Antrim Iron Co.; a member of the district pension examining board; member of the National Association of Railway Surgeons; member of the State Medical Society since 1890; has held the office of health officer of Mancelona; was county poor physician of Antrim county; was director in the Antrim County State Savings Bank; and was engaged in general practice. He was married May 2, 1894, to Miss Margaret J. C. McDonald, of Mancelona. He was a good physician and loved and highly respected by every one who knew him.

CHARLES F. MORGAN.

The committee regrets its inability to learn more concerning the life of Dr. Morgan, than that a Michigan Physicians' Directory, published in 1893, located him then at Greenville, Mich., as a graduate of Yale, 1866, the same year that he was admitted to membership in the society. The

records of the Northern Michigan Asylum show that he was admitted to that institution September 13, 1900, and died April 29, 1902, of general paralysis.

HORACE TUPPER.

1830-1902.

[From *Bay City Tribune*, April 17, 1902.]

Dr. Horace Tupper, a pioneer resident of Bay City, died yesterday at his home, after an illness of over four months, during which time he had been confined to his bed. The doctor had long been a sufferer from cancer, the result of disorders contracted while in the army during the civil war. His family was aware that he could not recover, but his condition did not become critical until a few days ago, a hemorrhage being the cause of death.

Horace Tupper was born October 2, 1830, near Pine Plains, Columbia County, N. Y. He studied with his father, also a physician, until he was twenty-one, and went to Buffalo and entered the office of Dr. Frank Hamilton as a student, and attended the Sisters' General Hospital, remaining there through the term of Prof. Hamilton's charge of the surgical side of the hospital. He then entered the Edward Street Female Hospital in Buffalo, where he combined study and practice for two years. When the war of the rebellion broke out he attached himself to the Fourteenth regulars, and was soon changed to the Second Brigade, Sixth Division, and was assigned to service in the batteries of the Sixth Division, Army of the Tennessee, as surgeon, with the rank of major. He remained with his battery until reaching Corinth, Miss., and saw service at the battles of Pittsburg Landing, Farmington, Corinth and a number of other places. Illness then forced him to retire from the service.

He came to Bay City in 1862 and became interested with Samuel Bolton in the Keystone mill property in West Bay City, building a salt block in connection with the mill. The doctor soon found that he was the only surgeon in the locality, and his services were in great demand at the then village of Bay City and vicinity. In fact, he was the only surgeon in this part of the valley for fifteen years, and until within a very short time of his death was kept busy in professional work. He was a member of the G. A. R. and served as commander of H. P. Merrill post, of this city. He was married at Buffalo, December 24, 1862, to Miss Elizabeth Trinder, daughter of William Trinder, of Chadwinton, Oxfordshire, England, who, with their son, survives him. In politics the doctor was always an energetic Re-

publican, but could never be induced to accept any political office.

Dr. Tupper was a charter member of the present organization of the State Medical Society, joining in 1866, and a continuously active member until 1900. He was vice-president in 1883.

OSCAR E. YATES.

1845-1901.

Oscar E. Yates was born in Wayne County, Mich., October 12, 1845, and died at Holland, Mich., October 27, 1901. His youthful days were spent in Calhoun County, where he obtained a practical education in the public schools, and later finished his studies at Mayhew Business College, at Albion, Mich.; after which he taught school, worked on the farm, studying medicine in his leisure hours. He attended the Eclectic Medical Institute, at Cincinnati, Ohio, from which institution he graduated with honors in 1869. Soon after graduation he located at Plainwell, Mich., where he practiced his profession until 1880, when he removed to Overisel, Mich. Three years later he moved to Holland, Mich.

Dr. Yates practiced regular scientific medicine, notwithstanding his graduation from an eclectic school, and lived up to the ethics of the American Medical Association. When his name was presented to the State Medical Society, the Committee on Admissions recommended him unanimously, being convinced that the doctor had discarded all pathies, and he was elected a member without a dissenting vote. No man abhorred quackery in its different forms more than the doctor. He battled for rational medicine, although himself a graduate of an irregular institution, a misfortune to the doctor in many ways; yet it was a credit to his learning and mature judgment that he abandoned the earlier teachings of medical dogmas, and gave his support to scientific medicine. And it was a credit to his professional brethren to recognize and encourage his efforts in this direction and welcome him to the society.

Dr. Yates was in good standing among the medical fraternity in the city of Holland. He was a member of the local society, and became a member of the Michigan State Medical Society in 1896; in the same year he became a member of the American Medical Association. He was local surgeon of the Pere Marquette railroad and a member of the National Railway Surgeons' Association; also a member of the board of pension examining surgeons. He held several public offices; was mayor of the city; member of the school board, and coroner of Ottawa county.

The committee wishes to acknowledge its obligations to Dr. H. Kremmers, of Holland, for the foregoing sketch of Dr. Yates.

GEO. F. HUNTER.

After the presentation of this report, the committee received news of the death of Dr. Geo. F. Hunter, at Sonora, California. He died of pulmonary tuberculosis.

REVISED CONSTITUTION AND
BY-LAWS FOR COUNTY
SOCIETIES.

Prepared by the Michigan State Medical Society.

CONSTITUTION.

ARTICLE I.—NAME AND TITLE OF THE SOCIETY.

The name and title of this organization shall be the.....County Medical Society.

ARTICLE II.—PURPOSES OF THE SOCIETY.

The purposes of this Society shall be to bring into one organization the physicians of.....county; so that by frequent meetings and full and frank interchange of views they may secure such intelligent unity and harmony in every phase of their labor as will elevate and make effective the opinions of the profession in all scientific, legislative, public health, material and social affairs, to the end that the profession may receive that respect and support within its own ranks and from the community to which its honorable history and great achievements entitle it; and with other county societies to form the Michigan State Medical Society, and through it, with other state associations, to form and maintain the American Medical Association.

ARTICLE III.—ELIGIBILITY.

Every legally registered and reputable physician residing and practicing incounty, who is of good moral and professional standing, and who will agree in writing over his own signature to practice non-sectarian medicine only, and to sever all connections with sectarian colleges, societies and institutions, shall be eligible for membership.

ARTICLE IV.—MEETINGS.

Regular meetings shall be held at such time and place as may be determined by the Society. Special meetings may be called by the President on a written request of five members. Calls for special meetings shall state the object of such

meeting and no business except that stated in the call shall be transacted at such meeting.

ARTICLE V.

The officers of this Society shall consist of a President, Vice-President, Secretary, Treasurer, Delegates, and a Board of three Directors. These officers, except the Board of Directors, shall be elected annually for a term of one year. Delegates shall be elected in accordance with the constitution and by-laws of the Michigan State Medical Society. The Board of Directors shall consist of three members, each to serve for three years. The President, upon his retirement at the annual meeting, shall become the new member of the Board; provided that at the first election after the adoption of this constitution a member of the Board shall be elected for one, one for two, and one for three years. If the President is re-elected to his office, the new member of the Board shall be elected by the Society.

ARTICLE VI.—FUNDS AND EXPENSES.

Funds for meeting the expenses of the Society shall be raised by annual dues, special assessments and voluntary contributions. Funds may be appropriated by vote of the Society for such purposes as will promote its welfare and that of the profession.

ARTICLE VII.—CHARTER.

The Society shall apply to the State Society for a charter at the meeting at which this constitution and by-laws are adopted, or as soon thereafter as practicable, and the charter shall be kept in the custody of the secretary.

ARTICLE VIII.—INCORPORATION.

The Society shall have authority to appoint a Board of Trustees and to provide for articles of incorporation whenever it may deem the same necessary.

ARTICLE IX.—AMENDMENTS.

The Society may amend any article of this constitution by a two-thirds vote of its members at any regular meeting, provided that such amendment shall have been read in open session at a previous regular meeting and shall have been sent by mail to each member ten days in advance of the meeting at which final action is to be taken.

BY-LAWS.

CHAPTER I.—MEMBERSHIP.

SECTION 1.—The Society shall judge of the qualification of its members, but, as it is the only door to the State Medical Society and to the American Medical Association for physicians within its jurisdiction, every reputable and legally qualified physician in county,

as defined in Art. III. of the constitution, shall be entitled to membership.

SEC. 2.—A candidate for membership shall make application to the secretary, and shall state his age, his college and date of graduation, the place in which he has practiced, and the date of registration in this state. The application must be endorsed by two members of this Society. It shall be referred to the Board of Directors, who shall inquire into the standing of the applicant, assure themselves that he or she is duly registered according to the laws of the state, and report at the next regular meeting of this Society. Election shall be by ballot, and two-thirds of the votes of the members present and voting shall be necessary to elect. The application shall be returned to the secretary, who shall file it for future reference. Applications for membership from rejected candidates shall not be received within six months of such rejection. Every applicant, when elected, must sign the constitution and by-laws, agree to support the same and the code of ethics of the American Medical Association, and pay his dues, before he is entitled to the privileges of membership.

SEC. 3.—A physician, accompanying his application with a transfer card from another component county society of this or any other state within 60 days of the issuance of said card, may be admitted without fee on a majority vote of the members present, and without the application being referred to the Board of Directors. Such applications may be acted on at the meeting at which they are presented on the vote of three-fourths of the members present, otherwise they shall lie over until the next regular meeting. No annual dues for the current year shall be charged against such members, provided the same have been paid to the Society from which the applicant comes.

SEC. 4.—A physician residing in an immediately adjoining county may become a member of this Society in like manner and on the same terms as a physician living in this county, on permission of the county society of the county in which the applicant lives, if there be one, or of the state councilor for this jurisdiction.

SEC. 5.—A member in good standing who is free from all indebtedness to this Society, and against whom no charges are pending, wishing to withdraw, shall be granted a transfer card. This card shall state the date the member associated himself with this Society, the date of issuance of the card, and shall be signed by the President and Secretary. It shall be accompanied with a copy of the application presented at the time the member joined the Society, for

information to the Society to which the member desires to attach himself.

SEC. 6.—All members shall be equally privileged to attend all meetings and take part in all proceedings, and shall be eligible to any office or honor within the gift of the Society, so long as they conform to this constitution and by-laws, including the payment of the dues to this Society and to the State Society: Provided, that no member under sentence of expulsion shall take part in any of the proceedings, or be eligible to any office until relieved of such disability. And, provided further, that none of the privileges of membership shall be extended to any person not a member of this Society except on a majority vote of the Society in regular meeting.

SEC. 7.—A member who is guilty of a criminal offense or of gross misconduct, either as a physician or as a citizen, or who violates any of the provisions of this constitution and by-laws, shall be liable to censure, suspension or expulsion. Charges against a member must be made in writing and be delivered to the Secretary, who shall immediately furnish a copy to the accused and to the Chairman of the Board of Directors. The Board of Directors shall investigate the charges on their merits, but no action shall be taken by the Board before giving the accused and accusers ample opportunity to be heard. Nor shall any action be taken by the Board within ten days of the presentation of the charges to the accused. The board shall report (1) that the charges are not sustained; or (2) that the charges are sustained, and that the accused be (a), censured; (b), suspended for a definite time, or (c), expelled. Censure or suspension shall require a two-thirds vote of the members present and voting, and a three-fourths vote of those present and voting shall be required to expel a member. No action shall be taken by the Society in such cases until at least six weeks have elapsed since the filing of the charges. A member suspended for a definite time shall be reinstated at the expiration of the time, without action on his part or on the part of the Society.

SEC. 8.—Kindly efforts in the interest of peace, conciliation or reformation, so far as possible and expedient, shall precede the filing of formal charges affecting the character or standing of a member, and the accused shall have opportunity to be heard in his own defense in all trials and proceedings of this nature.

SEC. 9.—Members expelled from this Society for any cause shall be eligible for membership after one year from date of expulsion and on the same terms and in like manner as original applicants.

CHAPTER II.—POWERS AND DUTIES.

SECTION 1.—This Society shall have general direction of the affairs of the medical profession of the county, and its influence shall be constantly exerted to better the scientific, material and social condition of every physician within its jurisdiction. Systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every reputable physician in the county, as defined in Art. III. of the constitution.

SEC. 2.—A meeting shall be held at p. m. on the in each month (or oftener). members shall constitute a quorum. The officers and committee on program shall profit by experience and by the example of other similar societies, and strive to arrange for the most attractive and successful proceedings for each meeting. Younger members especially shall be encouraged to do post-graduate and original research work, and to give this Society the first results of such labors. Crisp papers and discussions and reports of cases shall be arranged for and encouraged, and tedious and profitless proceedings and discussions shall be avoided as far as practicable.

SEC. 3.—Agreements and schedules of fees shall not be made by this Society, but at least one meeting during each year shall be set apart for a discussion of the business affairs of the profession of the county, with the view of adopting the best methods for the guidance of all. In all proper ways the public shall be taught that business methods and prompt collections are essential to the equipment of the modern physician and surgeon, and that it suffers even more than the profession when this is not recognized.

SEC. 5.—The Society shall endeavor to educate its members to the belief that the physician should be a leader in his community, in character, in learning, in dignified and manly bearing, and in courteous and open treatment of his brother physicians, to the end that the profession may occupy that place in its own and the public estimation to which it is entitled.

CHAPTER III.—OFFICERS.

SECTION 1.—The officers of the Society shall be elected at the (January) meeting in each year, which shall be known as the annual meeting. Nominations shall be made by informal ballot, and all elections shall be by ballot. The vote of a majority of all the members present shall be necessary to an election.

SEC. 2.—The President shall preside at all meetings of the Society, and perform such other duties as custom and parliamentary usage may require.

SEC. 3.—The Vice-President shall assist the President in the performance of his duties, shall preside in his absence, and, on his death, resignation or removal from the county, shall succeed to the presidency.

SEC. 4.—The Secretary shall record the minutes of the meetings and receive and care for all records and papers belonging to the Society, including its charter. He shall keep account of and promptly turn over to the Treasurer all funds of the Society which may come into his hands. He shall make and keep a correct list of the members of this Society in good standing, noting of each his correct name, address, place and date of graduation, and the date of the certificate entitling him to practice medicine; and in a separate list he shall note the same facts in regard to each legally qualified physician in this county not a member of this Society. It shall be his duty to send annually a copy of such lists, on blank forms furnished him for that purpose, to the Councilor of his district by the first day of January. In making such lists he shall endeavor to account for each physician who has moved into or out of the county during the year, stating, when possible, both his present and past address. At the same time, and with his report of such lists of members and physicians, he shall transmit to the State Society his order on the Treasurer for the annual dues of the State Society.

SEC. 5.—The Treasurer shall receive all dues and money belonging to the Society from the hands of the Secretary or members, and shall pay out the same only on the written order of the Secretary.

SEC. 6.—The Delegates shall attend and faithfully represent the members of this Society and the profession of this county in the House of Delegates of the State Society, and shall make a report of the proceedings of that body to this Society at the earliest opportunity.

CHAPTER IV.—COMMITTEES.

SECTION 1.—There shall be a Board of Directors as provided in the constitution, a standing committee on programs and scientific work, a committee on public health and legislation, and such special committees as may from time to time be deemed necessary.

SEC. 2.—*Board of Directors.* The Board of Directors, elected as provided by Article V. of the constitution, and of which the President and Secretary shall be *ex-officio* members, shall be the censors of the Society. It shall consider all questions involving the rights and standing of members and pass upon all applications for mem-

bership. All questions of an ethical nature brought before the Society shall be referred to the Board without debate. It shall hear and decide all questions of discipline affecting the conduct of members, and its decision in all such cases shall be final, except that any member shall have the right of appeal to the Council of the Michigan State Medical Society. It shall make careful inquiry into the condition of the profession of the county and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in the Society. It shall be the further duty of the Board to hold the official bond of the Treasurer for the faithful execution of his office, annually to audit and to authenticate his accounts, and to provide suitable meeting places for itself and the Society.

In so far as possible all questions other than the discussion of papers shall be referred to the Board, which shall consider the same deliberately and bring its decision before the Society in such shape that the members may act intelligently and promptly.

In case of the absence of a member of the Board, the President may appoint some member to fill the vacancy. The senior member of the Board in point of service shall be the Chairman of the Board.

SEC. 3.—Regular meetings of the Board shall be held at the time of the regular meetings of the Society. Special meetings may be called by the Chairman or by a quorum of the Board.

SEC. 4.—*Committee on Program and Scientific Work.* This committee shall consist of the President, Vice-President and Secretary. It shall be its duty to promote the scientific and social functions of the Society by arranging attractive programs for each meeting and by urging each member to take part in the scientific work. It shall stimulate fraternalism and good feeling among the members in every way possible.

SEC. 5.—*Committee on Public Health and Legislation.* This committee shall consist of three members, who shall be appointed annually by the President. It shall be its duty to enforce and support the sanitary and medical laws of the state in this county, to co-operate with the legislative committee of the State Society in all matters pertaining to legislation, and to prosecute quacks and medical pretenders in this county.

CHAPTER V.—FUNDS AND EXPENSES.

SECTION 1.—The annual dues for each member of this Society shall be..... dollars, to be paid on or before the annual meeting for the election of officers in each year.dollar of such dues shall be

used to defray the expenses of the Society, and two dollars shall be forwarded by the Secretary, with his annual report, to the Secretary of the State Society. Any member who shall fail to pay his dues on or before the date named shall be held as suspended in this Society, and in the State Society, and his name shall be placed on the list of non-affiliated physicians in the report of the Secretary to the Councilor of his district for that year, and shall so remain until such disability is removed.

SEC. 2.—The fiscal year shall be from January to December, inclusive.

CHAPTER VI.—ORDER OF BUSINESS.

The order of business shall be as follows:

1. Call to order by the President.
2. Reading of minutes of last meeting.
3. Clinical cases.
4. Papers and discussions.
5. Unfinished business.
6. Miscellaneous business
7. Announcements.
8. Adjournment.

AT ANNUAL MEETING.

1. Call to order by the President.
2. Reading of minutes of last meeting.
3. Communications.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of Board of Directors.
7. Report of Delegates to State Society.
8. Address of President.
9. Election of officers.
10. Miscellaneous business.
11. Adjournment.

CHAPTER VII.—RULES OF ORDER.

The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, unless otherwise determined by vote.

CHAPTER VIII.—CODE OF ETHICS.

The Code of Ethics of the American Medical Association shall be the Code of this Society.

CHAPTER IX.—AMENDMENTS.

These by-laws may be amended at any regular meeting by a two-thirds vote therefor, provided that such amendment has been read in open session at the preceding regular meeting and a copy of the same has been sent to each member by the Secretary ten days in advance of the meeting at which final action is to be taken.

The first meeting of the Committee on Scientific Work and of the Committee on Arrangements will be held in Detroit on Tuesday, December 2nd, to consider ways and means for the next annual meeting to be held in June at Detroit.

Books Received.

Transactions of the Medical Society of the State of New York, 1902.

A Quiz-Compend of Physiology, by A. P. Brubaker, A. M., M. D.

Transactions of the State Medical Society of Wisconsin, 1902.

Medical Directory of New York, New Jersey and Connecticut, 1902.

Transactions of the State Medical Association of Texas, 1902.

Book Review.

General paresis is a disease frequent and important enough to serve as the subject for a most interesting symposium before the New York State Medical Society last year, of increasing frequency and yet too little known, except in the most vague way, by the general practitioner.

General Paresis (the subject of this book) is worthy of more attention than is commonly given it, and this volume ought to be helpful in furthering somewhat a better knowledge of its distinctive features, its etiology, varieties, course, termination, pathology, etc.

The author's asylum experience of twenty-five years is freely drawn upon and many authorities are abundantly quoted.

If we were to criticise any one feature as detracting from the general attractiveness of the book, it would be the somewhat monotonous quotation of lengthy case-histories to illustrate minor points.

We bespeak for the volume that attention at the hands of the general practitioner which it well merits.

The illustrations, some original and some borrowed, are generally good, though some of the wood cuts are poor.

The work of the publisher is generally well done.

General Paresis, Practical and Clinical, by Robert Howland Chase, A. M., M. D., Physician-in-Chief Friends' Asylum for the Insane. Philadelphia: P. Blakiston's Son & Co., 1902; pp. 291; \$1.75.

CHAS. W. HITCHCOCK.

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Original Articles

"SOME TRIUMPHS AND DEFEATS."*

W. H. HAUGHEY,
Battle Creek.

Conforming to the general law, our triumphs in Gynecology and Obstetrics have been largely achieved by giving strict attention to and making a close study of our defeats. Many workers, resting from their labors, or practically defeated by inability to take the next step, have seen co-workers take up the question, profit by the knowledge already attained, and carry the matter to a triumphal issue.

To preserve the health of our women, with all that condition implies to the human race, to correct impaired functions and, when possible, promptly restore to health abnormal conditions, is the highest aim of the Gynecologist.

To Dr. Marion Simms, laboring among

the slave women in the South, to Sir Jas. Y. Simpson, whose duties brought him in contact with the higher classes in England, to Bennett and Gardener are we indebted for the knowledge that lacerations of the cervix occur during parturition; but to Dr. Thos. Addis Emmet is entirely due the honor of properly describing the pathology of laceration, its causative relation to many other uterine diseases, and the correct surgical means for its permanent relief.

Thus did the labors of these gentlemen, working separately and in different fields, covering a period of more than forty years, secure to the world the great triumph of Trachelorrhaphy.

It is worthy of remark that although the first four and others had recognized the condition and its cause in a tear, they still suffered the defeat of being unable to benefit their patients until Dr. Emmet took the single advanced step of placing the tear together and suturing it there. Bennett had recognized the tear *forty years* before Emmet sewed it up.

*Oration on Obstetrics and Gynecology, at annual meeting, Port Huron, June 26, 1902.

"CURETTAGE AND THE CURETTE."

Of all the simple operations in Gynecology "curettage" supposedly stands at the head, both on account of the ease of its performance and the low, almost nil, mortuary record. Emboldened by these conditions every physician feels competent to perform this *simple* procedure. But is it really a simple and always safe operation? I answer, No.

Of all instruments ever devised for use in mitigating the suffering of mankind, I am convinced the curette is capable of perhaps the greatest mischief. Certain it is that, in unskilled hands, the evil it does far exceeds the good accomplished.

By unskilled hands do not understand me to imply unskilled physicians--far from it. Many physicians of undoubted ability, many obstetricians of undoubted skill, have not had sufficient practice in the manipulation of instruments to imbibe from their use that nicety of touch, that intelligent handling that comes to the successful surgeon only by a long familiarity with the use of instruments, and by that use the knowledge acquired of the force needed for the special structure, tissue or membrane upon which the instrument is working.

GIVEN.—A case of miscarriage at first to third month. Fetus expelled. Membranes retained. If no extraneous means have been employed to produce this miscarriage, or if no examining finger, or douche, or other means have been used by which germs could be introduced to infect the membranes, then the chances are in favor of the condition being an aseptic one. If the curette is now unskillfully used the *doom* of that patient is sealed. Why? For this reason: A sharp douche curette is selected. That surgical *abom-*

ination, SOFT WATER, is boiled and then cooled back with cold water from the cistern pump, or, if allowed to cool by standing, the *hand* is inserted to ascertain the right temperature. The whole is then poured into an *old* water bag and allowed to run through several feet of dirty rubber tubing before reaching the curette, which is held in a trembling hand, unaccustomed to such work. Undue *pressure* is made. Long strips of mucous membrane are scraped from the uterine mucosa. But the placenta, membranes, etc., are not wholly removed. Frequently large pieces are left which, from the germs introduced, soon become septic. Temperature rises, peritoneum is invaded, becomes rough, dull and cloudy. Exfoliation of its endothelial cells takes place. Toxines pass to the circulation beyond, in such quantities as to completely overwhelm the resisting power of the white corpuscles, requiring but from four to six days for death to end the scene.

Is this picture painted too black? Then I have seen it in these somber robes many times. *Oh, that the unskilled in the use of the curette would always select the dull instrument!*

If sepsis is present, then, for the same reason, the dull instrument should be used if we do not wish to add another to the already too long list of premature graves holding the flower of our land—the young mothers and maidens—those who the world have been told died from peritonitis, but who, in so many instances, are lasting mounuments to the *unskillful* use of the curette.

ECLAMPSIA.

Our older members have only to recall their college days to bring to mind how little was taught us of puerperal convul-

sions at that time. It is true the clinical picture was faithfully portrayed. It was known that the urine contained albumen which in some mysterious way was supposed to bear causative relation to the convulsions.

What knowledge of eclampsia, and its causation, we have gained since then has come through so many and so widely separated observers that no one person can claim the honor of bringing forward more than one or two points. A very considerable fund of valuable information has by this means, however, been obtained.

When some one called to our attention the supposed fact that in cases of eclampsia the urine not only contained albumen but did not contain its normal supply of urea, it was thought that the cause was found, and for a long time uremia was heralded as such. Later developments, however, revealed many conditions not to be accounted for on the hypothesis of uremia and again the profession was at sea for a cause. With these conditions before us it was believed that although the cause was hidden in obscurity, it would be good treatment to keep up active elimination. By this treatment, no doubt, many were spared, others relieved, and some restored to health after convulsions had occurred.

But the ever restless spirit of research and desire for accurate knowledge, so prevalent in our profession, *and so commendable*, would not allow us to rest there, and from the length and breadth of the land came many and frequent reports, showing the amount of thought and attention given this subject by medical men.

Especially was thought now centered on that particular form of eclampsia which either develops or continues with

increased force after delivery. To relieve these unfortunates, and save as many as possible, stimulated into action our best endeavor, nourished and ripened our best thought, from the maturity of which has been advanced some of the best ideas of causation, as well as the most practical measures of treatment thus far known to medical science.

It seems to be now quite generally admitted that, in persons susceptible, there is, during pregnancy, stored up in the uterine walls a poisonous principle from the excrementous products of the fetus, which, getting into the maternal circulation in sufficient quantities, produces eclampsia. The theory has it that when labor contractions come on those poisons are forced out of the uterine circulation and injected into the maternal blood; that when sufficient quantities have thus passed through, convulsions supervene.

Undoubtedly, in some cases enough toxins will not be forced through until the final expulsion of the fetus, when with this powerful contraction enough is suddenly injected to completely overwhelm the spasm controlling centers, thus allowing the terrific and so often fatal convulsions which occur at this time—the fatality of which, however, will depend largely on your ability to sufficiently dilute the blood before irreparable damage has taken place.

The object of blood dilution being to decrease the number of poisons in a given quantity, and thereby bring a less virulent fluid into action on the nerve centers, it is obvious that no time is to be lost if we wish to secure for our patient the greatest amount of good.

We have no more direct means at our command than to extract from the veins

from 16 to 20 ounces of the poison laden blood and supply its place with an equal amount of the decinormal salt solution. It will be apparent to all, however, that this maneuver is not always feasible, owing to the surroundings and conditions usually present, when we cannot always be sure that our solution will reach the veins in an absolutely sterile condition. Those same conditions render hazardous subcutaneous and submammary infiltrations.

Fortunately we have at our command a valuable as well as expeditious means which is not open to the above objections. I refer to stomach injection of about one quart of plain water by means of the stomach tube. As water in the stomach is taken up by the natural absorbents and enters the circulation in about thirty minutes, it is obvious that this amount can be repeated every hour until sufficient dilution is obtained and effects are produced.

Diaphoretics, diuretics, and hydrogogues can be administered in unison with stomach injections of water. In case a stomach tube is not at hand a good substitute may be found in the ordinary fountain syringe. Remove the point and after cleansing a portion of the hose introduce it into the stomach and allow the water to run in.

This may not be a perfectly esthetical procedure and may conflict with the fastidious views of some people; *but* when a patient's life is in jeopardy, I never allow the fastidiousness of bystanders to interfere with my efforts to save it.

STERILITY.

Dr. Geo. J. Englemann, of Boston, Mass., who has given this subject much thought and study, in an excellent paper read before the Gynecological section of

the American Medical Association at St. Paul one year ago, gave this definition of sterility: "The condition of the woman who has been married three years without giving birth to a full term child." And then, quoting from the Gynecological record from 1600 to 1650, he shows, from observations therein made on 2,038 married women, a total sterility of two per cent., while at the present time he finds, as near as can well be determined from the number examined and the statistics at hand from Massachusetts, Michigan, and the city of St. Louis, a total of nearly twenty per cent.

Although this percentage varies in the different classes examined, *to the disadvantage of those in the higher walks of life*, yet he gives the causes as largely moral. His paper can be found published in *The Journal of the American Medical Association*, October 5, 1901.

Whether the principal causes of sterility are moral or physical, the fact that it is increasing in our land must be apparent to all who have given the matter the least thought. I could fill this paper with statistics in proof of this statement, but as Dr. Englemann has given abundant statistical evidence in the paper referred to above, I will not repeat them here, but assume that no gynecologist needs such proof; and be the cause what it may, *physical or moral*, to the medical profession in *general* and the *gynecologist in particular* must fall the burden of effecting a cure, if cure is to be had from any source.

Physical defects must be remedied. Diseased conditions must be relieved, and all objectionable features tending to produce physical weakness in our women, whether it be in dress or habits, school

seats or the counting house desks, the anæmia of the maiden or the demands of society, must be sought out and eliminated, that the best type of physical womanhood may be *attained* and *retained*.

Of the means to be employed to secure this much-to-be desired end, some have already been mentioned and others will be. In fact, all gynecologists have been taught how to cure the ills of their patients, and need no suggestions from me at this time. But of the means to be employed to overcome the moral causes of sterility, "Aye, there's the rub." When society ceases to look on fecundity with contumely; when the mothers and elder women cease instructing our daughters "to take care of themselves;" when the sixteen-day story is forgotten, and man and wife live together, "One flesh and one blood," as God who created them intended they should live—then, *and not till then*, will the moral causes of sterility be removed, and ourselves *freed* from the imputation of being a nation of accidents.

Perhaps among the foremost of physical causes of sterility stands double epididymitis, that exceedingly common sequela of chronic gonorrhœa. Forget the sixteen-day story and you have robbed gonorrhœa of one of its most powerful friends.

When the bride of a few months or the mother of perhaps a year comes to you with her husband, or perhaps sends him in her stead, seeking relief from delayed or suspended menstruation, with the old story of inability to support or properly care for more children, then, oh, brother physician, then is your golden opportunity. Improve it. Be kind. Give good advice. Sow good seed, and it will fall mostly on good soil.

It is our duty to correct the moral causes of sterility whenever the opportunity presents itself. This is your opportunity. Use it. Give your prescription. But let it be the kindly advice of a conscientious physician, given with due consideration for the rights of the unborn and innocent being who now depends entirely upon your integrity for the very privilege of existence.

Were I to drop the subject of sterility at this point, I would, I am well aware, have gone over the conventional ground that has been covered many times by the writings of eminent workers who have gone before me. However, even at the risk of adverse criticism, I cannot in conscience bring myself to do so.

Man demands, as a right, for himself privileges and even licenses, the indulgences in which by the weaker sex he condemns and treats with scorn. Society complacently accedes to his demands.

That the conventionalities of polite society certainly require us to pass unheeded, or at most as youthful follies, many indiscretions in the man, which are to be treated with scorn and severest censure when found in the woman, is patent to all. That many young men take advantage of this well-known toleration to engage in practices that not only do violence to their morals, but to their health as well, is beyond dispute. That the resulting condition of impaired sexual health in the young man is a fruitful source or cause of sterility in the young woman who, at this time, becomes his wife, is a *fact*, and a matter of too frequent occurrence to escape the scrutinizing gaze of the conscientious and observing physician.

When society changes its views and *ceases* to *excuse* in the man what it *con-*

demns in the woman; when it goes farther and declares the propagation of large families fashionable; then, *and not till then*, will the principal incentive for the moral causes of sterility be removed. Will society ever do this? It must. And to you, my brothers, a large portion of the task of bringing about this change must fall.

I stated that society *MUST* do this; why? Because the *perpetuation* of society depends on the *purity* of its *morals*.

Somewhere hidden in the loins of the males now living are the germs, or that from which they will be produced, of those who are to come after and occupy the places we now enjoy. That nobility of character, high aims, lofty aspirations, intelligence and graces, with the capacity to acquire them, are recognized *inheritances* and results of *breeding*, all admit, as the old aphorism, "Like begets like," shows. How much easier then is it for man to transmit his *vices* to his offspring?

When the amorous seed from the immoral loins of a lustful father finds lodgment in the desecrated womb of a reluctant mother, and against the wishes of both continues its growth to term, the conditions are not favorable for bringing forth a being endowed with the high moral attainments mentioned above.

Against too many calamities of this nature society *MUST* protect itself, and we, its teachers, *MUST* point the way.

You may ask why I bring this matter here? *Because I know of no other organization outside of the Church of Rome that possesses the power and courage to handle it.*

As leaders of men; as exponents of truth; as guides of morals; as advisers of youth; as counselors of legislators; as pro-

tectors of the health and intelligence of the human race, *it is our duty to lessen this evil by our instructions, our precepts and our example.*

"THE IMPORTANCE OF EARLY
DIAGNOSIS AND TREATMENT
OF EAR DISEASES IN IN-
FANCY AND CHILD-
HOOD."

A. E. BULSON,
Jackson.

I think I am safe in the statement that in all the category of diseases that affect the human race, there are none of more frequent occurrence, and none which entail such disastrous results in after years on the physical well being of the individual, as the various ear diseases of infancy and childhood.

Compiled statistics show us an infant mortality of twenty to twenty-five per cent. during the first year of child life from acute ear disease.

Deafness, or partial impairment of hearing, is frequently found among school children.

The degree of impairment of hearing in both sexes, in both ears, is about nine per cent., and from thirteen to twenty-five per cent. in one ear. This of course has reference to the period following infancy. If these statistics teach us anything, it is that there is a woeful ignorance, or more properly speaking, carelessness, on the part of those who have these little sufferers directly under their charge. It is a sad story to relate, but nowhere is this unintentional neglect more clearly seen than in the incipient earaches of early infancy and childhood.

Ear pain is a very common story in a household where there are several chil-

dren, and so common that the little sufferers receive little, or in fact no remedial attention, and unless the attack of pain is much more severe than the ordinary, those who have the immediate care of the child do not think it of sufficient importance to ask even ordinary advice, asserting that earache is a family tradition, and will soon get well, or pass off, or be outgrown, etc. There are exceptions to this, but they are rare indeed where, during one of these ear attacks, the child is carefully guarded from cold and exposure.

It is very common to use hot sweet oil, or laudanum and oil, to allay pain, with perhaps hot fomentations to ear. But rational measures of treatment are seldom if ever used, and, I am sorry to relate, which commonplace view of so grave a form of infant disease is too often shared by the family physician.

What I say at this time regarding the ear diseases of infancy and childhood, is for the express purpose of arousing earnest and careful consideration of this most important subject, that the ill effects of this scourge to child-life may be counterbalanced by the adoption, and carrying out, of some rational and scientific method of treatment, the importance of which can not be over-estimated.

I wish to especially emphasize the importance and desirability of establishing in every case which comes to our notice, some rational etiological basis, the importance of which will be more fully realized when we apply the treatment which we will later adopt.

Ear diseases as sequelæ of exanthemata, hypertrophic turbinals, and pharyngeal adenoids, are easily diagnosed, but the unusual cases which appear as idiopathic in character, and insidious in their onset, are

so often shrouded in uncertainty that we are sometimes by force of necessity even justified in shielding ourselves under the too common "*take cold theory*."

I might mention in this connection, that in no case should we be so over-zealous to cure our patient as to allow carelessness to enter into the treatment, and become as a result an etiological factor of the disease.

To attempt to make a proper classification of the diseases of the ear of infancy and childhood would require more space than the time allotted to this paper will allow.

I will suggest, however, for the present occasion, a division as follows, viz:

Idiopathic: Those resulting from sudden taking cold, and inflammatory sequelæ which follow.

Exanthematous: Cases following scarlet fever, small-pox, measles, etc.

Obstructive: By far the most frequent of all in causing acute and chronic inflammation in the ears of children.

Under this head we have pharyngeal adenoids, polypus, hypertrophies of faucial tonsils and turbinals, foreign bodies in nose and tympanic cavity, and lymphoid degeneration.

All traumatic affections of the ear of whatever degree form a class unto themselves, and must be so considered and treated, regardless of the age, constitutional conditions, and peculiarities of the case, the success of which will depend very largely upon proper hygienic care of the patient at home, and the skill of the attending surgeon.

Hinkel, in a valuable paper on this subject, makes the following timely suggestions:

"Earaches, however slight, may sig-

nify disease of a serious nature, involving the internal labyrinth.

"*Recurring* earaches, in children, indicate lymphoid involvement.

"*Acute Inflammations* of the ear may be aborted with proper treatment, early applied."

Without doubt pharyngeal adenoids in children are by far the most frequent cause of ear disease, and are also the most amenable to successful treatment.

Medical literature is teeming with verification of this statement, and the very first thing we should determine in a case of ear disease, in a child that comes to our attention, is the presence or absence of adenoids, for without a most definite knowledge on this particular point our treatment will be of little avail.

But few pathological conditions of the body require more careful, tactful, and scrutinizing ability in the physician in making his diagnosis than do the complicated ear diseases of children.

This being the case, it opens up a field for more perfect technique in our operations, and the treatment which may follow.

An important factor which we must not overlook is the constitutional, dietetic, and hygienic conditions of all these cases, the future success of the case depending very largely upon the proper management thereof.

The fact that purulent diseases of the ears of children do now and then recover, with little or no proper remedial treatment, has without doubt led to the very prevalent notion among many physicians that this is no exception to the rule, and hence has been responsible for this seeming neglect in the proper care and treatment in these cases.

Competent and careful pathologists are agreed that in the fetid variety of middle ear suppuration the bacilli are abundant, and also that there is greater danger of mastoid involvement in those cases in which the *streptococci* are found.

If we have demonstrated the existence of such condition by microscopic proof, we should regard the case with just as much solicitation and care as we would were the same infection determined to be present in some more accessible vital organ of the body.

Allen says: "Streptococcus pyogenes must be acknowledged to be the most important bacteriological element in the etiology of middle ear disease."

Hereditary and other diatheses must not be overlooked in the ear diseases of children, and while syphilis and tuberculosis are fortunately seldom seen as primary ear infections in childhood, as hereditary factors they may become important in every case that comes to our notice.

It is a matter of common knowledge that more than three-fourths of all cases of ear affections originate in diseases of the throat and nose, and extend to the ear.

Those arising from primary inflammation of the ear are very rare. There are a few cases arising from toxic, or specific blood conditions, as well as a very limited number due to some primary influence on the nervous system.

Whenever ear pain is present, exploration of the nose and throat should invariably be made.

If the condition of these parts were not known before, the examination may shed considerable light on the special structures examined. As an invariable rule we may

expect to find some throat disease present, either obstructive or inflammatory in character.

Enlarged and inflamed tonsils and pharyngeal adenoids are the most common, but oedema, abscesses, ulcerations, elongated uvula, as well as nasal catarrh and polypus, are by no means uncommon. It is of common occurrence to find the throat and ear conditions secondary to a state of malnutrition from indigestion, acid fermentation, etc.

Every physician who has been a close observer of these diseases in children, readily understands that the soft hypertrophic nasal swellings, with profuse discharges, or soft tonsillar enlargement with frequent attacks of ear pains, occurring usually periodically, and augmented by cold in the head, are undoubtedly, and primarily, cases of acid fermentation, and by attention to the diet alone in their onset would get well, if few or indeed no remedial measures directed to the condition of the ears were used.

The question of diet is a most important one, and by strict attention to measures based on a recognition of its importance physicians have of late been able to prevent much suffering among children that might otherwise result most disastrously. A close observer will always recognize the variable habits of child life, and study each one separately and most carefully to observe to what extent his ways invite colds or nervous exhaustion and reflex inflammatory ear disease which invariably follows.

It is often the case the attacks are invited by a general chilling of the body, from improper or insufficient clothing, and in small infants by damp clothing, etc.

The foolish custom so prevalent among the thoughtless and would-be fashionable people of exposing the arms and a good part of the chest of the child to make him appear to best advantage and thus tickle the fancy of a foolish mother and nurse, is to be most rigidly condemned as unreasonable and certainly dangerous.

We should, as far as our counsel goes in regulating the clothing of the child, insist on the child being clad during the winter months entirely in wool.

It lessens the liability to chills and colds and absorbs more of the insensible perspiration that is so marked in children than any other texture of clothing in use.

In this connection we should also see that the clothing at night should be of wool, and of increased weight from that worn during the day.

The importance of this is readily understood from the fact that the motion of the body during the day generates more combustion, and of course more heat.

A rule that we should ever keep in mind is that the child's physical condition is to some extent always affected by every inflammation of the ears.

This is peculiarly true when the primary ear pain commences in the labyrinth of the ear.

One attack seems to beget another until the whole auditory apparatus is involved in a grave inflammatory condition; and if unrelieved early in the onset, either by nature or art, it soon invades surrounding parts, and affects the bony structures, and grave mastoid complications follow, extending through the tympanic plate, causing frequently meningitis, and also into the sinuses, producing phlebitis and ending invariably in death.

Many a child has died from meningitis

and sinus involvement, when the primary disease of the ear as the executing factor had not even been thought of.

Every specialist of any degree of experience in these grave forms of ear disease will bear testimony as to this statement.

I wish to call attention to another point in this connection. In children pus forms so quickly, much more so than in adults, that the surrounding parts become rapidly infiltrated.

It is because of this rapid pus formation that serious results occur so unexpectedly to the average physician, or before a thought or anticipation of a fatal result.

Foreign bodies in the ear and nose are of frequent occurrence among children, and should receive prompt and careful attention. If an insect has entered the ear, a little chloroform applied by means of a small pledget of cotton and forceps directly into the meatus, followed by the use of the syringe, will be all that is required to remove it.

We occasionally meet with some of the most obstinate chronic suppurations of the ear, that have their origin from an injury to the external ear, or from a foreign substance in the post nasal cavity.

I remember when I was a student of Prof. W. H. Mittendorf, of New York, that a young lady came to his office with an offensive suppuration of the ear, and had been a sufferer since nine years of age. She had consulted some of the very best aurists in this country and in Europe, but with no relief whatever. Dr. Mittendorf had the ear thoroughly syringed with a simple antiseptic solution, and then made his examination. After curetting the canal carefully he struck a hard substance, which when removed proved to be a piece

of slate pencil one-half inch long. The young lady remarked: "There is that piece of pencil that was broken off in my ear thirteen years ago." I do not cite this case to show any great skill in its removal, but to show how important it is to make a thorough and careful examination of all cases which come to us with a history of having a foreign substance in the ear.

I might report another case which came to my office for treatment but recently. A boy eleven years of age came with an extensive and offensive suppuration of both ears, that had lasted since seven years of age. He had been under treatment by various physicians, but with no relief. As there was a foul and most offensive discharge from the nose, I cleansed this organ and explored the nasal cavity. Just back of the middle turbinal body I struck a hard substance that was detached and movable; grasping it with forceps I extracted a good sized *hazelnut*, which the mother of the boy said had been there for four years. Every one will readily see that this was the exciting factor of the whole trouble, which proved to be the case from the subsequent treatment which followed, as the boy most fully recovered, both in the offensive disease of the nasal cavity and ears.

I shall but briefly discuss the variable methods of treatment.

Every intelligent practitioner will be governed by the conditions presented in each case, no two of which may require the same treatment. I would mention that we should be guarded against the too prevalent tendency of routine methods, and investigate the symptomatology and general surroundings of the case most thoroughly before we make our diagnosis.

It is most desirable that we commence

our treatment immediately, as soon as there are indications of ear involvement; the earlier the better.

We cannot rely on surgical methods alone to cure all cases, neither can we expect to be successful in all cases by the local applications, no matter how skillfully applied, nor by constitutional treatment of whatever nature it may appear in the case; but we must depend upon the circumstances and conditions surrounding each individual case, and govern our treatment by causative factors involved, and meet them heroically and without fear.

Heat or cold will often give relief from the intense pain, if judiciously applied, but the common tendency to administer some opiate in the early stages of ear disease should be condemned, simply from the fact that opium in any form would obscure the real conditions should serious complications intervene.

If after from twelve to twenty-four hours we get no relief from the intolerable pain, we may be quite certain that more heroic measures will have to be instituted, viz: paracentesis of the tympanum. I want to be distinctly understood that in no case should we wait for any local or general treatment, if upon careful examination at the commencement we find bulging of the drum membrane, but proceed immediately with this operation. The relief which invariably follows is of itself sufficient endorsement to convince the most conservative of its value.

Randall's indications for paracentesis may be summarized as follows:

First. Great pain, with bulging of the membrane.

Second. When the tension of membrane is high, and the bulging even slight.

Third. Insufficient drainage through

the membrane already ruptured, and danger of extension to the antrum.

Fourth. Excessive and continued pain which is not relieved by hot applications.

It is to be admitted that some ear surgeons discountenance this operation. But I fail to find any authentic records in any of the recent medical literature where there has been any serious result following paracentesis of the tympanum, but on the other hand a marked enthusiasm has arisen among physicians for its early use.

It is an operation that certainly requires skill to perform, and the beneficial results which have followed make it one of the grand achievements of modern surgery.

Wherever pus has formed, or sero-sanguinous fluid, as a matter of fact it must find some avenue of escape. If it is in a case of middle ear suppuration, and the eustachian tubes are closed from inflammatory product, it must as a natural result break through the tympanum, or into the mastoid cells, the sinuses or brain, with death of our patient as the inevitable result.

The wet and dry treatment has its advocates, but whichever is used must be so directed as to apply to the general condition of the case.

Much of our success in the treatment of ear diseases in children depends very largely upon the thoroughness with which we examine and treat naso-pharyngeal adenoids, hypertrophied turbinates, and faucial tonsils.

What I have previously stated in regard to the etiology of the case as a causative factor of ear diseases in children, will apply with equal force in our complete and radical removal of the same if we would accomplish the desired result in our treatment of the case.

Our attention must be imperatively directed to this condition as much as to the ear disease itself.

"WHAT IS THE CONSERVATIVE
TREATMENT OF MAS-
TOIDITIS?"

DON M. CAMPBELL,
Detroit.

A careful resume of that part of current otologic literature which deals with mastoiditis has brought home to most of us the realization of the vastly important and rapidly extending significance of this disease.

Perhaps no surgical disease, with the possible exception of appendicitis, has demanded and received so much attention from surgeons as has mastoiditis.

It would seem that in approaching the management of this important surgical infection the profession has divided itself into two principal classes, upon the one hand being those who would attack the disease surgically upon the slightest evidence of mastoid involvement, and upon the other those who depend almost entirely upon milder means and who will not open the mastoid unless absolutely forced by the uncontrollable exigencies of the case into such a procedure.

The former class of surgeons will operate early upon the slightest tenderness over the mastoid antrum or at the mastoid tip; the latter must needs have a complete grouping of the classical symptoms of mastoiditis and an immediate danger of intra-cranial extension of the septic process before the knife, the chisel and the gouge is grudgingly resorted to.

It is needless of course to add that the former class of surgeons hurry their patients into as many dangerous situations

as the latter allow theirs to be overtaken by equally as deplorable conditions.

The conservative treatment of mastoiditis in the writer's opinion is that form of treatment which will most rapidly cure the most cases with the least possible suffering on the part of the afflicted individual; nor is it a truly conservative form of treatment to withhold from the patient the blessings of a surgical procedure which will relieve him of his suffering, drain the abscess and start him on towards recovery.

From a surgical standpoint an important classification of the pathology of mastoiditis is that which makes a distinction between mastoiditis, complicating acute suppurative otitis media, and the same disease, complicating a chronic suppurative otitis media, and right here there is need of some emphasis because it has always seemed to the writer that we must in our management of these cases draw a sharp line of distinction between our conservative management of these two classes of the same disease under vastly different etiologic conditions.

Ten years ago it could have been stated without fear of successful contradiction that a mastoiditis complicating acute suppurative otitis media of sufficient severity to demand surgical intervention was an extremely rare complication.

To-day the situation is quite different, as many instances are now seen where a mastoiditis of a severity and persistency enough to demand quick, prompt, and radical surgical relief is found complicating the acute form of middle ear suppuration.

Is this change due to a new or special form of infection? I think not. In many cases coming under my care careful bacteriologic examinations have been made and have failed in the first place in dis-

covering any special bacterial infection, and in the second place there has not been a uniformity in the germ found, the staphylococcus, the streptococcus, either as pure cultures or as mixed infections, the pneumococcus and the colon bacillus being variously represented.

We must, it would seem, seek for an explanation of the changed conditions in a greatly reduced protective power on the part of the individual who has recently gone through an infection of epidemic grippé. This view holds good not only in ear affections but in any form of infection and almost all grippé epidemics are followed in succeeding months by an increased number of cases of tuberculosis, pneumonia or nephritis.

In discussing the subject we can of course dismiss with a very brief mention the treatment of all cases of mastoiditis in which the presence of pus in the mastoid structures is evidenced by such well marked signs as swelling, redness, and fluctuations in the mastoid region, nothing but surgical intervention being of avail at all in such cases.

The conservative treatment of mastoiditis complicating an acute suppurative otitis media consists in the employment of suitable hot antiseptic irrigation to the auditory canal and tympanic cavity, frequently enough repeated to secure thorough cleansing of the affected parts; the application of the ice bag or Leiter's Coil to the mastoid region for the first thirty-six hours; the application of leeches to the mastoid region and the promotion of bleeding for some hours thereafter.

The disinfection of the canal and tympanum by the introduction of antiseptics and astringent applications.

Proper attention to the nasal, nasopharyngeal and pharyngeal cavities.

A free incision through the membrane tympanica carried well up and out into the upper and posterior canal wall in all cases in which drainage is not very free.

These means, together with proper attention to the general condition of the patient, constitute the first division of the conservative treatment of mastoiditis in cases complicating acute suppurative otitis media, and I must insist that they should be given a thorough and fair trial before the mastoid is opened; nevertheless in my conception of the situation the truly conservative treatment of these cases does not end here, but includes the opening of the mastoid in cases which do not yield to this form of treatment.

How long shall this form of treatment be continued before resort is had to opening the mastoid?

It is entirely futile to attempt to answer this question in hours, days, or weeks, but as long as the patient is making progress towards recovery it can be deferred.

The pulse, the temperature, the general condition of the patient, the subsidence or advancement of the local signs of involvement of the mastoid and adjacent structures, must answer this question in each individual case.

In a general way it may be said that unless there is some sign of improvement, either in the general condition of the patient or in the local manifestation of the disease in four or five days to a week, the conservative management of the case would demand that the mastoid be opened and thoroughly evacuated of all septic material.

There is one class of cases which are a

source of great worry to the surgeon, viz: those in which for several days there is apparently no progress either way or in which periods of apparent improvement are followed by relapse without adequate cause.

In such cases of doubt as to whether or not the case is making satisfactory progress, the mastoid should be opened promptly and as an explanatory procedure in order to clear up any doubt as to the conditions existing at that point and as a purely conservative measure.

Quite different, however, is the situation when we have to deal with a mastoiditis complicating a *chronic* suppurative otitis media.

In such a condition while the present attack may subside under treatment, the improvement will be only temporary, and as in the case of relapsing appendicitis the disease will ultimately terminate the life of the patient; so in such a condition the only conservative procedure is an immediate, complete and radical operation for the removal of not only the contents of the mastoid but also all diseased tissue in whatever locality it may be found.

The conditions, the pathology, the subsequent behavior of these two classes of mastoiditis are so different, that what is good, sound, reliable, conservative treatment in one is not in the other permissible at all upon the same ground.

In the writer's opinion the conservative treatment of mastoiditis, looking at the question in the broader sense of the conservation of the best interests of the patient, must include as an important part of the management of the cases of mastoiditis complicating acute suppurative otitis media, the surgical opening of the mastoid as soon as the more conservative proce-

dures, as outlined above, fails to produce a satisfactory progress of the case towards recovery, or where there is a reasonable doubt as to the favorable progress of the case.

The conservative treatment of mastoiditis complicating a *chronic* suppurative otitis media must exclude all methods of treatment more conservative than the early and complete removal by surgical means of all necrotic, necrosed or diseased tissue, and must include thorough surgical drainage during the healing process.

SOME REMARKS ON THE TREATMENT OF MASTOID DISEASES.

ROBERT WINTHROP GILLMAN,
Detroit.

My chief object in writing this paper is to advance a plea for more conservatism on the part of aural surgeons in dealing with cases of inflammation of the mastoid process. At present it seems to be, with many surgeons, the fashion to operate on nearly all the diseased mastoids that come before them. Those who, a few years ago, would preach the efficacy of extensive incisions of the drum-head, establishing free drainage, together with other correspondent treatment in cases of mastoiditis associated with purulent inflammation of the middle ear, claiming that with this treatment but few cases would demand the major operations, now calmly take chisel and mallet in hand and proceed to obliterate the whole mastoid process, claiming that, if properly performed, the operation itself is without absolute danger to the patient, and if done early grave complications can be averted.

Are we always sure that even the simple operation of opening the mastoid cells is without danger to our patient?

By way of answer to this question I might state that a distinguished eastern aurist recently remarked to me that he had, time and time again, witnessed some of the worst cases of sinus-thrombosis, brain-abscess, deep abscess in the neck, etc., follow the simple operation; and he believed that in a number of these cases the operation itself was the cause of the complications.

In the fall of 1898 I visited several prominent New York aural surgeons for the purpose of seeing them at work on mastoid surgery, and to ascertain just the class of cases they selected for operation. I soon discovered one reason, at least, why I was not more frequently performing operations on the mastoid as compared with the number of cases reported by some surgeons, namely, that many diseased mastoids are opened unnecessarily early, and that not enough delay as regards operative interference is countenanced by the enthusiastic aural surgeon of to-day.

I fully realize that too great temporizing favors brain-abscess, sinus-thrombosis, meningitis and septicemia; that there are undoubtedly many cases which require early operation; that even the life of the patient may be threatened by receiving anything less than prompt treatment, with free opening of the mastoid process, and possibly more than this may be demanded. But have we not all seen cases of mastoiditis presenting the chief classical indications for opening the mastoid process, recover promptly on a free incision of the drum-head or of the bulging auditory canal, with other appropriate treatment? In this connection the report of the fol-

lowing case may serve as an illustration:

On the afternoon of June 4th, 1902, Dr. M. W. O'Connor, of West Detroit, referred to me John Kelly, aged six years, for relief of a marked right mastoiditis of a few days' standing, following an attack of acute otitis media purulenta. On examination I found the area over the whole mastoid swollen red and very sensitive to the slightest pressure, especially over the antrum. The ear was standing out almost at right angles to the head. The posterior and superior walls of the external auditory canal were bulging and red. The canal itself contained a slight amount of thick stringy foetid pus, though there was no discharge from the external meatus. On removing this secretion the drum-head was seen to be red, slightly bulging, and contained a pin-point sized perforation in the center of its upper half. Temperature $101\frac{1}{2}$, pulse 110. Patient presented a pale, sallow appearance. I at once made an incision through the membrana tympani along its posterior and inferior attachments, and cutting into the inner wall of the tympanum. This was followed by free hemorrhage, but no pus. Free irrigation of hot carbolized water from a fountain syringe was ordered, and to be repeated every two hours while the patient was awake.

The following morning a profuse discharge of foul-smelling pus flowed from the large opening in the drum-head and the mastoid symptoms were much lessened in severity. His temperature had fallen to $99\frac{1}{2}$. In four days the patient was practically free of his mastoiditis. The discharge continued from the external meatus for ten days, when it yielded to treatment, and at the end of two weeks the little fellow had entirely recovered his health.

I believe there are many aural surgeons who would have found in this case one which required, in their opinion, prompt opening of the mastoid process without attempting its cure through any other channel.

I could report many like cases that have occurred in my practice during the past ten years, but the above one, together with the brief history of the following case, will, I think, make plain my position:

In March, 1901, Mrs. S., aged thirty-eight, had been ailing for three weeks from "earache" and discharge from the left ear, when her family physician, Dr. F. W. Mann, requested me to take charge of her case. I found the region over the whole mastoid extremely sensitive to pressure, but not discolored or swollen. The posterior and superior walls of the auditory canal were tumefied and red, and the drum-head, which contained a good sized perforation in its lower half, was bulging. There was a very free discharge of thick, odorless pus from the meatus. The patient's temperature was $102\frac{3}{5}$. Her color was decidedly sallow and she presented the appearance of pus absorption, which we so often see in cases of mastoiditis.

I made a large V-shaped incision along the inferior and posterior attachment of the membrana tympani to insure freer drainage, and ordered douching of the canal with three pints of hot carbolized water, every hour. The condition of the patient was not improved the next day, and she complained of more pain back of and above the mastoid. A deep incision into the bulging tissue and bone of the posterior wall of the auditory canal was now made, and the irrigation ordered to be continued every hour, as before. There

was a decided change for the better in the condition of the patient the next day, the temperature falling to $100\frac{3}{5}$ and the pain almost disappearing from the mastoid. The region over the antrum was still very sensitive to pressure, but the case gradually improved, and all signs of the mastoiditis disappeared in about eight days.

The late Dr. Edwin W. Pyle, in a paper read last fall before the New York Academy of Medicine, related the history of a case of acute mastoiditis following scarlet fever, which presented pronounced indications for operation, but the patient refused to undergo any operation, and under the influence of hot douching made an excellent recovery. He gave statistics from twenty-four physicians in general practice throughout the country, which were verified by his personal experience of twenty-five years in general practice and four years in special work, to show how seldom mastoiditis needs operation.

Though in these remarks I may seem to have advocated conservatism unduly in dealing with mastoiditis, it must not be taken for granted that I do not appreciate thoroughly the necessity of promptness where judgment and experience indicate the required condition for immediate operation. If called upon for a statement of these conditions, I would give in outline the following suggestions: Immediate opening of the mastoid process is indicated: I. When an acute inflammation of the bone associated with purulent inflammation of the middle ear does not yield promptly to incision of the drum-head or bulging auditory canal and other palliative treatment. II. When severe pain in the mastoid with or without pain in the same

side of head continues, resisting all other treatment. III. When the symptoms point to sinus involvement, meningitis, brain-abscess or septicemia. But, besides, there is, of course, the personal element involved in the judgment and experience of the operator, which cannot well be weighed or measured and each case has its peculiarities which must be considered separately.

In illustration, I give, in closing, a brief abstract of an interesting and instructive case, as it shows that the interior of the whole mastoid process can sometimes become broken down in barely two weeks, when attacked by acute inflammation, thus developing a condition which would terminate fatally if not interfered with promptly: On May 14, 1902, I first saw Mrs. B., of Brighton, Michigan, who gave the following statement: After suffering from a severe head-cold, two weeks previously, she was seized with a severe ear-ache, which lasted a day, when the ear began to discharge, on which the pain moderated; but she continued to suffer some distress in and back of the ear, up to the date mentioned. Her family physician had treated her during the first week of her ear trouble, but then, discovering the tissues over the mastoid swollen, red and painful, he advised her at once to consult a specialist, and she came to Detroit and placed herself under my care, in St. Mary's Hospital. I found her to be suffering from acute otitis media purulenta with pronounced mastoid involvement. Her temperature was 100° . Pulse 92° . The region over and posterior to the mastoid process was swollen, and very sensitive to pressure. The posterior and superior walls of the external auditory canal as well as the drum-head were bulging.

A bacteriological examination of the pus was requested, but for some reason this was not made.

An incision of the membrana tympani was followed by free hemorrhage and pus. Douching of the ear with hot carbolized solution was practiced every two hours. The next day, May 15th, she appeared to be in much better condition as regards the mastoiditis; but on May 16th a large swelling in the neck below the tip of the mastoid (Bezold's symptom) determined me to at once open the mastoid cells. Her temperature at this time was only $99\frac{1}{2}$. Under chloroform anesthesia, and with the assistance of the house-staff of the hospital, I performed the Schwartze operation. No fistulous opening in the bone could be discovered. On removing a thick plate of bone over the antrum, I was surprised to find the whole mastoid process reduced to one pus cavity filled with broken down cellular tissue and some granulations. A probe could be directed readily into the antrum. The external bone-opening was enlarged down to the tip of the mastoid, and carefully curetted of its broken-down tissue. The lateral sinus was exposed, very free venous bleeding taking place. The cavity was firmly packed with bichloride gauze. The patient rallied nicely from the operation, which consumed twenty-five minutes. Four hours after she developed a fainting spell, and being pulseless at the wrist, a pint of hot saline solution with half an ounce of whiskey was injected into the tissues of the breast. She improved rapidly, and, not a bad symptom developing, left the hospital in three weeks.

The first meeting of Committee on Scientific Work was held at Detroit, Dec. 2d.

THE ADVISABILITY OF EARLY SURGICAL INTERFERENCE IN ACUTE TYMPANO-MAS- TOIDITIS.

EMIL AMBERG,
Detroit.

Since Schwartze, of Halle, reintroduced the mastoid operation and placed it on a scientific foundation, a change has taken place in the views of the medical world in general in regard to surgical interference in affections of the middle ear and adjacent parts. If we consider that about twenty years elapsed from the time that the tubercle bacillus was discovered until the necessity of rational preventive measures became familiar to the profession and the public, we little wonder that it has required about three decades before firm rules have found their enforcement in otology, which only recently is gaining the recognition due to its importance. Surgical interference in affections of the middle ear is becoming recognized only after the unceasing efforts of those whose better insight place the duty upon them to show that the use of the knife is not only justified but imperative under certain conditions.

How does it happen that a more rational therapy for ear affections of the acute type has only recently been more generally accepted?

We should consider the following:

1. Tympano-mastoiditis is sometimes not diagnosed.

2. Only lately has it been recognized that complications of a middle ear suppuration are very frequently preventable if the mastoid operation is performed soon enough. These complications can mostly be headed off by dealing surgi-

cally, at an early date, with ear suppurations by removing the focus of infection.

3. Brain abscesses and other complications of middle ear suppuration give a doubtful prognosis, even if surgically interfered with.

4. The mastoid operation itself is, in the very great majority of cases, free of any danger, if performed by trained hands.

5. An early operation in cases which may, perhaps, get well without operation hastens recovery.

6. Exploratory operation is not only justified but sometimes imperative.

Time and occasion prevent me from entering upon a lengthy discussion of all points. Let us only consider at random some views corroborating my statements.

1. It is very probable that tympano-mastoiditis is a much more frequent affection than is generally supposed.

Dr. Hammond, of Boston, says: (I) "Many times I have had the statement made to me by physicians that they have been in practice twenty years, we will say, and have never seen a case of mastoiditis, and almost in the next breath ask: 'What are the symptoms?'"

2. That suppurations in the tympano-mastoideal cavity, if left alone, frequently lead to fatal complications, is well known.

Koerner says: (II) "Pitt found in nine thousand autopsies in Guy's Hospital, 1869-1888, 57 deaths by ear suppuration (1:158); Gruber, Wiener Allgemeines Krankenhaus, 1873-1894, in 40,073 post mortems, 232 (1:173); Poulson, in 14,580 post-mortems, Kopenhagen, 1870-1895, 48 by ear suppuration (1:303). Of ear patients 0.3% die, according to Buerkner and Randall.

Koerner compiled the results of 115 autopsies and found that:

41 patients died of sinus phlebitis and thrombosis,

43 patients died of brain abscess,

31 patients died of meningitis.

Dr. E. Oliver Belt (III) says: "In this country 4,000 deaths which occur annually from abscesses of the brain are attributed principally to suppuration of the middle ear."

Others say that one-third of all brain abscesses are caused by middle ear suppuration.

3. That it is more difficult to deal with complications arising from tympano-mastoiditis is apparent. Sinus phlebitis and thrombosis, brain abscesses and meningitis, do not permit us to give an entirely favorable prognosis even if surgical interference is resorted to.

Dr. Brindel, of Bordeaux (IV), in an excellent article, speaks of a case in which the presence of brain complications was apparent six days after the ear affection started. He further says that in some of the patients meningeal prodromal symptoms appeared on the sixth, in some on the 12th, the 14th and the 55th day after the suppuration in the ear began. He says:

"To wait with operating until meningo-encephalitic symptoms appear means to allow us to become checkmated almost with certainty. It is better to prevent them by liberally opening the apophysis. Each time when we witnessed interference, or when we interfered ourselves when there was no brain complication present, we had only noted success. On the other hand, we have seen, at various times, patients succumb to brain complications who refused operation before those symptoms appeared."

Dr. Brindel comes to the following conclusion: "Demonstrating by the experience which we have had and which we have daily in the ear clinic of the faculty of Bordeaux, the dangers of waiting in ear suppuration, I have tried to bring forward the necessity to discover and to treat as quickly as possible the most common complication, the mastoiditis, under whatever form it presents itself."

We readily see that the diseased middle ear and its relations to the adjacent parts can very well be compared with diseased organs in the abdominal cavity. In abdominal work, be it an affection of the gall-bladder or of the appendix, etc., early operation gives good results. Adhesions or peritonitis make an otherwise easy operation difficult and do not admit of such a favorable prognosis. In diseases of the ear the same can be said of sinus phlebitis, meningitis, etc.

4. That the mastoid operation is free of danger in the very great majority of cases if performed by skillful hands can be seen by the fact that in late years a total facial paralysis caused by injury of the facial nerve seems to be a very rare occurrence. As reasons for this must be given that nowadays aural surgeons who perform operations on the middle ear have seen the necessity of working on specimens.

If my memory serves me right, I have been told by a German colleague, who did post-graduate work in Berlin at the same time that I did, that he performed the radical operation ninety times, or more, on the specimen, before he dared to do it on the living. It seems to me that work on specimens is indispensable for acquiring the necessary experience.

5. Concerning the fifth point, that patients who may recover without an operation get well more quickly if an operation is performed, we must confess that the statement does not admit of a proof which may be called mathematically correct, because the possibility of indisputable comparison is removed in either instance. We must rely more upon our own and our patient's judgment in general. I do not doubt that a great many aurists who treated patients in whom both ears were affected, but in whom threatening symptoms were only present on one side, will hear, soon after surgical interference, expressions of surprise on the part of the patient that the operated ear improves more quickly than the other, although it was the worse. We can assume, with a certain degree of correctness, that the operation hastened recovery because the more seriously affected ear improved more quickly than the less seriously affected.

6. That an exploratory operation, in case of doubt, is justified, if there do not exist serious contra-indications, can be learned from our previous remarks. Illustrative of this point, that it is better to operate in case of doubt, may be the following remarks by Dench (V):

"I have previously reported a number of cases in which extensive mastoid involvement has occurred where the evidences of inflammation of the mastoid were extremely obscure. In all instances when I have operated earlier than my better judgment would have allowed me to do, I have found an extensive destruction of the bony structures."

Even if a number of patients may have been cured without an operation, we can fairly well assume that just as great a

number may have died because a simple operation was not performed soon enough. It is better, in my opinion, to operate on a hundred patients of whom even fifty might have been cured without an operation than to risk the life of a single patient by an ultra conservative method. We should consider that early interference is simple and makes conditions, to a comparatively great degree, certain, where they would otherwise remain uncertain.

In conclusion, I must express satisfaction that the interest in otology has increased in the State Medical Society. In the year 1900 I had the honor to read the only paper on the ear, and was granted between five and about ten minutes time to read it. In 1901 there was only one paper on the subject, by Dr. Stockwell, of Port Huron. This year we have four on the program. May the increased interest continue.

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DISCUSSION.

EUGENE SMITH, DETROIT.

As one of the specialists of the association, I feel honored by this large attendance. It is a notorious fact that when a specialist reads a paper before the association, which is intended, not for the benefit of the specialist, but for the benefit of the general practitioners, they keep out of the way and we have an attendance of specialists; hence the encouragement to prepare papers for our State Society. I can say this very freely because I am not particularly interested in a paper at the present time; that is, I haven't a paper prepared. These subjects, to all specialists, of course, are interesting.

With regard to Dr. Bulson's paper I wish to state that all earaches in children are by no means inflammatory in character. We do find neuralgic conditions, possibly inflammatory, so far as the neuritis is concerned; still we find a great many cases where the earaches are not dependent upon middle ear inflammations; hence the physician should make a careful examination to find the exact condition with regard to his treatment; otherwise the paper is perfect and the suggestions are perfect.

The paper read by Dr. Amberg speaks for itself and there is nothing to discuss.

Dr. Campbell's paper, sifted down, or resolved to its meaty part, counsels conservatism. *Early operation is conservatism* in these cases.

With regard to Dr. Gillman's paper, the first case he speaks of (the case of the child), it was not an inflammation of the mastoid proper, it was a periostitis of the mastoid, the condition we used to make Wilde's incisions for, and he practically made a Wilde's incision when he made the large incision in the meatus.

The so-called term paracentesis is a mere puncture, and that is almost useless. A long, free incision should be made, and a physician ought not to be afraid to make it early in all these cases whether the drum membrane is bulging or not, when there is a good deal of inflammation and a rise in temperature.

About two months ago I saw in ten days three brain cases, two of which I saw in consultation—one an abscess of the temporo-sphenoidal bone.

I trephined the temporal bone, put in a trocar and got out half an ounce or nearly an ounce of pus. The patient lived twenty-four hours, but we confirmed the diagnosis. Another case, where the mastoid operation was made ten days before, without finding pus, being called in consultation, I diagnosed it septic thrombosis, which was confirmed by another operation.

Within a week I was called to see a case with a history of earache. It was the case of a child four or five years of age; temperature 101. Some ear drops were used the first night. The next day the family doctor called to see the patient and found the little one with a temperature of 103, suffering with earache and a rash across the chest. He thought he was going to have a case of scarlet fever; but when he went that evening to see the patient the rash had entirely disappeared. The temperature was still up. He kept on with the drops and some medicine internally. That night the child developed a high delirium; I was called in consultation the next day. The temperature was 103. Examining the ear, I found the upper portion of the drum was red and bulging, and I made a free incision. There was a little serous exudation, and within fifteen minutes the child became quiet from the incision, but remained more or less delirious all that night. The next morning the delirium had gone, the temperature, which had been 103, had dropped to 100. I was called again the next day, as the discharge had stopped. I found the incision closed, though it had been a free one; I made another incision, a very large one, and the patient went on from that moment without any discharge from the ear except a little serous discharge to a perfect recovery. These three cases of brain disease, occurring in so short a time, illustrate the importance of these ear cases, and I haven't the slightest doubt if all these cases could have been operated on early, they would have recovered.

I am one of those who contend that the moment you find, or are satisfied in your own mind that you have a mastoid trouble (disease of the mastoid cells and antrum), that you should operate. Don't wait for the grouping of symptoms. There are no symptoms alike in all cases; you must depend upon the individual case and your knowledge of such cases.

With regard to the case that Dr. Gillman speaks of, that went on to septic thrombosis and to brain trouble, I believe that did not occur as a result of the operation, but as a result of an incomplete operation. There are too many operators who are satisfied with getting off the external layer of the skull and opening the cells. If they find a little pus in the larger cells they are satisfied; I have

assisted men in operations when they wanted to stop too soon. I recall one case, a physician, a member of this society; I was assisting in the operation; when the operator opened the cells and found a little pus, he said, "That is enough." I said, "No, I am a little persistent in these cases; let me take the spoon." I was examining with the spoon, when it suddenly passed through the posterior wall of the mastoid process into the triangle of the neck—the cervical region—and out welled a quantity of pus, very nearly an ounce. The operator was surprised and said, "Where does that come from?" It was what is known to aurists as Bezold's variety of mastoiditis. My impression is that this case would have gone on, nobody knows where, had not the operation been thorough. It should be thorough in chronic cases always. Not merely the opening of the external layer of the skull and getting into the mastoid cells, giving vent to a little pus and scraping the cells; we should open the antrum, and we should examine the sinus; we should examine carefully with a probe the tympanic walls. These are the cases that usually get well, and many of those that do not get well are the cases which have not been thoroughly operated upon.

C. H. BAKER, BAY CITY.

I want to endorse the remarks of the last speaker in regard to conservatism in the treatment of cases of mastoid abscesses. I had a series of patients last winter in which there was very little pain and very few symptoms of mastoid involvement. One patient had been treated by a general practitioner, at the time I saw the patient, about ten days. There was no temperature, the pulse was good, and the boy was feeling pretty well, except that his ear was discharging, and on examination I found quite a collection of pus in the meatus. I cleaned that out and found the tympanic wall bulging into the canal. As soon as the outer wall of the mastoid was removed I passed the probe in and explored it a little and found the inner wall perforated, as my probe passed directly into the temporal fossa. That case lasted ten days without any of the symptoms which we have been taught to depend upon as diagnostic, and in that case, if we had employed conservatism, waiting for symptoms of pain, etc., I am satisfied that the patient's life would have been lost.

I believe more patients lose their lives in efforts to prevent mastoid operations than lose their lives by early operations. Some of us, as has been said, may have gone too far, but I think far fewer have failed in that direction than in the other. As an example of how rapidly a case of

mastoid inflammation may develop, I remember one case that, when I was called, the patient's temperature was high (I have forgotten the degree), the pulse was bad and the color bad, and there was a profuse discharge from the ear and a slight swelling over the mastoid, with considerable tenderness, and when I opened that mastoid, which I did within twelve hours, I found the entire mastoid process, which was one of the variety that is very spongy and full of air cells, saturated with fluid pus, and in that case I cannot believe that any amount of incisions done through the meatus would have prevented the necessity of mastoid operation. One of my patients had had discharge from the tympanic cavity for a number of weeks, following acute earache. I didn't see the case from the beginning, but at the time I was called in consultation she had no temperature and no pain. She was doing her household work; she merely had a continuous discharge of rather thick pus, and on deep pressure over the bony meatus I detected a slight tenderness, and there was a very little bulging of Schrapnell's membrane. When the outer wall was removed I found the surprising condition of an entirely broken down mastoid, with none of the walls remaining intact, and the whole mastoid process converted into one cavity with thick pus filling it up.

I insist you are more conservative and you are doing better surgery if you do the early operation as soon as you have satisfied yourself that the pus is there, and that in all probability you are not going to get sufficient drainage by way of the natural openings.

J. A. KING, MANISTEE.

I would like to say a word or two from the standpoint of the country doctor. I would first like to ask a question about this incision in the drum membrane. Now I know nothing about Wilde's incision or any other kind of incision. I sometimes puncture the drum membrane, but I am afraid of going too far; afraid of doing damage, and I want Dr. Gillman to tell me whether there is danger of striking something that I ought not to because I don't know?

I have been practicing some eighteen years where specialists are very few and far between, and I meet, as all country doctors do, every once in a while, with suppurative mastoiditis, and when I think it suppurative mastoiditis, I sometimes cut through, and always find pus. I never had a patient die, whether I operated or didn't operate, in all those eighteen years, except one case, and in that I advised operation for three months, but the patient

put it off. He finally came into my office one day to get relief from pain. I told him I didn't think he would live to be operated on in Ann Arbor; that I thought he would live to get there, and probably to go on the table, but unless the operation was done at once his chances for living were very slim, and not better than one in a hundred if operated upon immediately. He agreed with me, and I operated, and he died in forty-eight hours. That is the only case that I have ever had that died from mastoiditis. I see cases frequently where I think they have mastoiditis, but I do not think the trouble is very bad, and I do not operate, and they get well.

A MEMBER.

I would like to ask the members of this Association who are practicing ear work if they ever use any local anesthetics in the performance of paracentesis? In a great many cases paracentesis can be performed without pain.

I was called over to a little town in Canada some time ago to see a little girl with mastoid trouble; as near as I could get the history she had been sick about a week or ten days; the ear stood out at right angles, and in the examination of the ear I tried to clear the canal as well as possible; it was absolutely impossible to see the drum; I took a lance and thought I would see what it was; I made a long, free opening in the canal and got a gush of pus; I thought it must be a large cavity, and I took a probe and was surprised to find that the whole process back there was all broken down. I could pass the probe down in there; I took a curette and cleaned it out as well as possible; it was in a little, dark room, with no lamps of any kind; I got no light, but I cleaned the cavity out as well as possible and irrigated it with a little boiling water, and left it in charge of the physician there. The little girl was badly nourished, and the surroundings were so bad that the case was rather tardy, but she recovered. I haven't any doubt but that I had performed a mastoid operation through the canal, or that it was already performed. The patient was four years old and it was to me a rather unusual case.

In conservative surgery of the ear or any kind of surgery, the personal equation enters into it largely; it is a matter with the doctor. A conservative surgeon is a man with good clear judgment—first being possessed with knowledge and being acquainted with the trouble he is attacking, and then using good judgment—it is purely a matter of judgment. There are some men so constituted that it is impossible to be conservative

or practical, or anything else; they will rush in in some places and will hold off in others where they ought to go; and really it resolves itself into a matter of good judgment.

DON M. CAMPBELL, DETROIT.

I have very little to add. Everything has been said that can be said upon the subject.

We are not very far apart in the treatment of mastoiditis. Dr. Baker cites a case where the trouble was ten days old; if the doctor had seen that case when it was one day old instead of ten days, and he had examined it and found tenderness over the antrum and over the mastoid tip, he would not, I think, have opened the mastoid the second or third day, although there are members of the profession who would open it even so early as that in acute cases; that case should have been treated during the second, third, fourth and fifth days by the ordinary conservative method of treatment, and if it was not proceeding favorably at the end of five or six days, the mastoid should then have been opened, so that we are not very far apart really in our management of these cases. It is only a question of whether we are going to open it, just because there is a little tenderness in the mastoid, or whether we will give the patient the benefit of a few days of treatment, and then if the disease does not yield, open it.

R. W. GILLMAN, DETROIT.

In the preparation of Dr. Campbell's paper and mine, it might seem almost as if we had consulted one another, and written in unison.

As regards the first case reported in my paper, I am sorry to be obliged to differ with Dr. Smith. He says it was only a case of periostitis; I entirely disagree with him. Authorities, who have investigated the relationship between purulent inflammation of the middle ear and mastoiditis, claim that in every case of otitis media purulenta there is more or less mastoid involvement. Indeed, the middle ear and the mastoid process may be regarded as one.

I do not want it understood that I do not advocate operation at an early stage of the disease when necessary; but I do believe it is common sense and good surgery to give the patient the benefit of early treatment, without premature chiseling into the mastoid process. I claim it was conservatism to operate early in the case which I reported with a temperature of only $99\frac{1}{2}^{\circ}$, because I saw symptoms which demanded immediate opening of the mastoid cells.

I must be very fortunate; I have been working for twelve years in hospital and private practice,

and have escaped the horrible experience described by my esteemed friend as consequent on not immediately operating on every sensitive mastoid. I have never signed a death certificate. I was associated with Dr. Smith in hospital and private practice for two years and a half, and during that time I never saw him open a single mastoid process; yet now, to-day, he has turned the corner, so to speak, and advises immediate operation in every single case of the disease.

As to the opening of the bone being a simple operation, it may or may not be true; but take for instance the case of a merchant, a very busy man, who comes to me for relief of an earache with marked symptoms of mastoiditis of a few days' standing: I am not going to say to him, "Go to the hospital—the mastoid cells must be at once opened or you may die." Such treatment would confine him in the hospital or his home from three to six weeks, perhaps without the least necessity, as within twenty-four hours the patient might respond to milder remedies. It is in just such a case that the good judgment and experience of the specialist is valuable. There are cases in which twenty-four hours would be too long a delay before opening the mastoid, and others in which a postponement of three weeks or longer would not be a dangerous course to pursue.

CURETTINGS—THE VALUE AND NECESSITY OF MICROSCOPIC EXAMINATION.

R. GRACE HENDRICK,
Jackson.

It is the purpose of this paper to point out as clearly and concisely as possible the practical aid the microscope offers in the diagnosis of uterine conditions, especially as to the character of inflammatory affections, the relation of inflammatory affections to neoplasms, both benign and malignant, and the evidences of malignancy.

Much work has been done and many articles written on this subject, but no exhaustive review of the literature will be attempted here. In 1853, Recamier published his work on uterine fungosities and their manner of treatment. We are told

by Leclerc (Recamier's secretary) that before 1843 no one had ventured to cleanse the interior of the uterus. Another contemporary described the iron spoon which he used and called attention to the fact that he described and diagnosed hyperplastic endometritis. His work soon drew the attention of physicians and the subject was investigated by numerous workers, among whom we may mention Velpeau, Robert, Guérineau, Dubois, Malgani and Moreau. The first microscopic investigation of these conditions was recorded in 1848 by Robin, then the first histologist of Paris, followed in 1853 by Ferrier, who used the microscope in the diagnosis of curettings. In the same year, Nelaton sharply differentiated fungosities, polyps, and cancers of the uterus, and the classic pioneer paper of Ruge and Veit in Germany was the first attempt at a classification of endometritis, dividing it into hyperplastic, atrophic and diffuse forms.

Before going farther, it may be well to say a word about the technic of curetting from the pathologist's standpoint, as it may be essentially different from that ordinarily used for therapeutic purposes. In order to make a diagnosis with certainty, it is, in many cases, necessary to examine the entire mucous membrane of the uterus, since, as it is well known, one part of the endometrium may be fairly normal, while other portions show advanced inflammatory changes, or even malignant conditions. The curetting, therefore, when undertaken for diagnostic purposes, should be deep and thorough and all pieces should be saved and examined. Only in this way can early malignant changes be detected and the advisability of operative interference determined.

Inflammations are without doubt the most common pathological conditions of the uterus. Hall, whose gynecological treatment of the insane for the past four years is of great interest and worthy of much more than passing notice, says: "By far the greatest number of cases in any class were those of the inflammatory class."

Inflammations may be first divided into pseudo-inflammations, having no recognizable bacterial origin, and true or infective inflammations, in which a bacterial origin may be shown. The pseudo-inflammations are chronic in form and may be either interstitial or granular. The interstitial form differs in degree, being either simple, with some increase of stroma cells and more marked increase of intercellular substance, or hypertrophic, endometritis interstitialis polyposa, in which there is a greater proliferation of the stroma cells. In some cases, the mucous membrane becomes thinner than normal and we have endometritis interstitialis atrophica. If a tissue infiltrate is especially prominent, the condition is known as endometritis interstitialis exudativa, and any of the forms mentioned may be hemorrhagic.

In the glandular type, endometritis glandularis, while the interstitial tissue may be increased, the characteristic feature of the pathologic picture is an hyperplasia of the uterine glands. Endometritis glandularis may be divided into three sub-classes, differing rather in degree than in kind. These are the simple form, the hyperplastic, and the adenomatous type, in which the glands are increased both in number and in size and because of their atypical branching, resemble an adenoma. The differences in the lines of treatment, the greater resistance of the latter to any

form of treatment, and the frequency with which the glandular inflammation is associated with the formation of new growths, make the recognition of the type of inflammation with which one has to deal of the greatest value to the practitioner. This becomes practical when we consider that the majority of such uteri are curetted as a method of treatment, and the microscopic examination of the curettings, revealing not only the type of inflammation but also the stage to which it has progressed, cannot fail to be of great advantage.

The most common form of infective inflammations is endometritis purulenta, which may be due to pyogenic germs, to the gonococcus, the pneumococcus, or to the colon bacillus. A definite membrane may be formed, as in the diphtheritic form, or it may become gangrenous or emphysematous. Among the forms of infective endometritis the general practitioner is especially concerned with endometritis puerperalis. As the endometrium is the main point from which the infection spreads throughout the body, the study of the curettings gives a clear picture of the extent and character of the infection. The tuberculous inflammation may also be recognized from the curettings, as the tubercles are usually spread diffusely through the mucous membranes. Since the early symptoms are those of a simple endometritis, the microscope is the only possible means of diagnosing the condition. The increasing number of tuberculous uteri and placentæ makes the subject interesting and the diagnosis of all cases important. To the general practitioner, more than to any other, comes the opportunity of securing specimens of the acute inflammations and it is readily

seen how important it is to study all pieces of membrane obtained by washing or cur-
 etting the post partum uterus, not only as
 an aid to diagnosis and prognosis, but also
 to extend the knowledge of the subject
 and to put the classification on a more
 solid basis. With inflammations should
 be classed membranous dysmenorrhoea,
 the membrane of which, since it somewhat
 resembles the true decidua membrane, is
 an especially suggestive field for study.

Endometritis.

Pseudo-endometritis (chronic).

Endometritis Interstitialis.

Endometritis Interstitialis Poly-
 posa.

Endometritis Intertitialis Atro-
 phica.

Endometritis Interstitialis Exu-
 dativa.

Endometritis Interstitialis Hem-
 orrhagica.

Endometritis Glandularis.

Endometritis Glandularis Sim-
 plex.

Endometritis Glandularis Hy-
 perplastica.

Endometritis Glandularis Ade-
 nomatosa.

Endometritis Glandularis Cys-
 tica.

Endometritis Interstitialis et Glandu-
 laris.

Infective Endometritis.

Endometritis Purulenta.

Endometritis Diphtheritica.

Endometritis Tuberculous.

Endometritis Syphilitica.

Endometritis Puerperalis.

Endometritis Gangrenosa (Em-
 physematous).

Membranous Dysmenorrhoea.

The line is very hard to draw between
 the advanced stage of glanular inflamma-

tion and the adenoma. As Ziegler clear-
 ly states it: "There are glandular forma-
 tions in glands which are with difficulty
 distinguished from adenomata." He
 also says: "There appear in the mucous
 membrane of the intestine and uterus de-
 velopments which, from the glands con-
 tained in them, resemble adenomata and
 which are reckoned by many writers, on
 account of the limited area of their
 growth, among the adenomata. Never-
 theless, they ought rather to be called
 glandular hypertrophies because of the
 normal cells lining the tubules."

Some recent work done by Dorland and
 Babcock and others point to the frequency
 with which adeno-carcinoma and fibro-
 myoma are associated. They show that
 to avoid errors in diagnosis it becomes
 necessary to curette the endometrium of
 patients suffering from benign growths.
 Indeed Radenmacher affirms that all cases
 of so-called carcinomatous degeneration
 of uterine fibro-myomata are examples of
 secondary infiltration of cancer cells from
 diseased endometrium. Schanta, in his
 report, gives eleven cases of carcinoma-
 tous or sarcomatous degeneration of the
 cervix, which had been left behind
 in abdominal hysterectomies. He
 adds: "With a view to the formation
 of more definite views on these points, it
 would be well to place on record every
 case of malignant degeneration of fi-
 broids." This is illustrated by the case of
 Mrs. T., aged fifty-one. Has had four
 children and always been well until the
 last year, which has been marked by per-
 iods of flooding. Physical examination
 showed the uterus two and a half or three
 times the normal size. Microscopical ex-
 amination, after a thorough curettment,
 showed adeno-carcinomatous areas. Hys-

terectomy was performed and the enlargement was found to be due to myo-fibroma, but areas of malignancy were found deep down in the fundus. The group of neoplasms that concerns us most in the study of curettings is that of adenoma and adeno-carcinoma. The clinical history of these cases is similar to that of a simple endometritis and from symptoms alone no early diagnosis can be made. Baldy speaks of the three great symptoms of cancer and dwells upon hemorrhage. Hemorrhage, when it occurs, is suggestive of carcinomatous conditions, but it may also occur in hemorrhagic endometritis and also in cases of fibroids and polyps. On the other hand, incipient adeno-carcinomatous conditions may often be diagnosed by the microscope long before any hemorrhagic symptoms call attention to the condition. The patients have been curetted simply as a curative measure in cases diagnosed as endometritis before microscopic examination. Pain is the second pathognomonic symptom mentioned by Baldy, but who has not seen well advanced cases of carcinoma without pain and who has not heard patients say: "It cannot be cancer, for I have had no pain." In regard to his third great symptom — odorous discharges — we would say it is rather late when these can be detected. To quote his own words: "It will do little good ostrich-like to bury our heads in the sands of self-complacency and sit with our hands folded whilst our patients die."

Not in loss of flesh and strength do we find a guide, for some patients, suffering from inoperable carcinoma of some years' standing, are supported by tonics and nucleins so that they show no loss of flesh or color. We must then conclude that the

evidences of malignancy found in clinical histories are vague and uncertain and that a microscopic study of curettings, revealing the irregular arrangement of the glands and the atypical cells pushing away from the basement membrane, can alone make the diagnosis certain. The diagnosis does more. It reveals the seat of the disease. Humiston says: "I believe it is of vital importance to know the seat of the malignant growth and particularly should its pathologic variety be determined by a careful microscopic examination before operation."

There is still another class of cases in which only the microscope can give a clue to the actual conditions, viz: cases in which decidual cells are found. These may be due to subinvolution of the uterus, or to retentio deciduæ. Malignant deciduoma may develop in these conditions, giving rise to symptoms of sepsis. The cells of the chorionic villi may proliferate, forming the syncytium malignum, the developments varying, so that we must depend upon the microscope for the diagnosis.

The microscope, therefore, occupies a position of primary importance in the determination of the character of pelvic diseases, especially in regard to the type of inflammation, the relation of adenomata to inflammation, and the change of benign to malignant growths. In the field of decidual growths, it furnishes the only clue by which we can hope to establish the nature of the process, while clinical symptoms alone should never be relied upon for the diagnosis of malignancy.

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DISCUSSION.

REUBEN PETERSON, ANN ARBOR.

I think this is a most admirable paper, and I wish that we saw more work like this in our State Society. I think that there is the greatest need for emphasis upon the point, that the general practitioner is the first to be consulted in these cases of malignancy, and that early treatment lies largely in his hands. During the past year I have had over a dozen cases of uterine carcinoma sent to me for operation at the University Hospital, and every one of these poor women could only be treated palliatively; not one

case did I receive where the radical operation could be performed. Even the radical operation will not prove of much avail until the general practitioner puts in practice some of the precepts of Dr. Hendrick's paper. I do not agree at all with Dr. Baldy, of Philadelphia, in his plea that for early diagnosis of carcinoma of the uterus we must rely more on the symptoms and less upon the use of the microscope. The symptoms in uterine carcinoma are apt to be very vague and far from pathognomonic, and should simply serve as indications that a microscopic examination of the suspected one should be made.

W. F. METCALF, DETROIT.

I might take this occasion to compliment the essayist upon the paper. Dr. Peterson has said more clearly than I what I would wish to express. The cases that are referred to us for operation for carcinoma are usually so far advanced as to be beyond hope of relief, further than by cauterization and temporizing. When the disease has so far advanced as to cause infiltration and infection of the lymphatics, I have really come to the conclusion that operation is not justifiable. In a number of those cases I have done abdominal section, and done thorough operation, removing the entire glands of the pelvis, but I have about given it up, and until the general practitioners can realize the importance of early diagnosis, these women must die. Heretofore, before this year, we have been somewhat handicapped in Detroit because of not having facilities for having these examinations made, but last January was established the Detroit Clinical Laboratory, which is accessible to every physician in the city or any physician in the state, and when any such question arises, or when curettement has to be done by the general practitioner, or by anyone in the city, there is no excuse for his not having this examination made. If he waits until the diagnosis is easily made, it will be too late to save the life in the majority of cases.

A. N. COLLINS, DETROIT.

I wish to express my commendation of the spirit of the paper and its accuracy; also the scientific work done upon the paper, and endorse fully the ideas advanced. Unquestionably many of these cases could be rescued were the early work advocated by the doctor done; but as a semi-general practitioner, who has seen a number of these cases, I can say that many times, before they fall into the hands of the general practitioner, these cases have advanced too far for successful surgical work. Of course we are willing to take advice from the specialists, and we

are willing to be criticized, but I think in many cases the patients themselves, owing to the lack of symptoms which the doctor well expressed, fail to call any physician's attention to these cases until the time is past for entirely eliminating the cancerous cells.

T. S. BURR, ANN ARBOR.

I want to add my compliments to those which have been given to Dr. Hendrick on her paper. It seems to me that we must not only attend to the microscopical diagnosis of these curettings, etc., when we are able to make them, but it is the duty of every physician to educate the women among whom he practices as to the importance and seriousness of any strange symptoms which may come to their notice in connection with the uterus, especially at the time of the meno-pause. I do not think that the fact that these women come to us too late is due entirely to the doctor. It is due very frequently to the relatives and friends of the patient, who urge her against submitting to any examination, and point out the horrible ordeal that she must go through if she goes to the doctor's office. We must educate the women, we must impress upon them the seriousness of the condition and the importance of seeking early relief. Then the doctor will have a chance to get his curetting and make his microscopical examination, and then the surgeon will have his chance to operate in time.

CONSERVATISM IN THE TREATMENT OF THE INFERIOR TURBINATE.

J. VERNON WHITE,
Detroit.

As an introduction to a few remarks upon the treatment of hypertrophied turbinates I shall call attention to some physiological facts of importance in this connection. I present these facts for consideration more particularly because there is a tendency in the modern treatment of diseased pituitary membrane and turbinated bodies to ignore their function. This tendency is manifest in the harsh measures employed; in the ruthless destruction of tissue, and in the worthless palliatives that

have become so popular with the laity and so remunerative to the unscrupulous practitioner.

The extent of the nasal mucosa is greatly increased by deflection, as well as by continuation into large sinuses. The object of so great an area of mucous membrane is obvious and well known; it forms a warming surface for the air that is to descend into the lungs. To this end also there is a rich blood supply. The vessels lie in the connective tissue beneath the basement membrane and are especially abundant in the region of the inferior turbinate. The tissue over this bone is thick and erectile, admitting of enormous distension.

Now this arrangement of mucous membrane and blood vessels is admirably adapted to the regulation of the temperature of the inspired air, for not only is there an extensive surface but this surface is so reduplicated that many recesses are formed and the air is compelled to pass in close contact with the mucosa. In addition to this the sinuses contain residual air, which by diffusion greatly accelerates the heating of the newly inspired air.

This heating apparatus is provided with a reflex or automatic regulator, so that the colder the air the hotter becomes the mucosa. The increase in temperature is brought about by a dilatation of the vessels caused by the action of the cold air upon the vasomotor nerves.

In addition to regulating the temperature of the inspired air the nasal mucosa is equally efficient in providing and regulating moisture, but I shall not here burden you with a discussion of nasal secretion. However, before leaving this question of physiology I desire to call attention to another, and I believe a very im-

portant function of the mucous membrane of the nasal cavity. I refer to the regulation of blood pressure. When a sudden change is made from a warm to a cold environment, there is an immediate powerful contraction of all the cutaneous vessels—the blood is forced from the surface of the body; simultaneously blood pressure is increased. Now, fortunately, the rise in the blood pressure is not in proportion to the cutaneous vascular contraction. If it were there would be serious interference with many of the vital functions and organs, and as atmospheric changes are not only not infrequent but very sudden and pronounced, the human organism would not long maintain its vitality. If the digestive organs, the liver and kidneys were subjected to as frequent and as great vascular changes as the nasal mucosa, there would be a radical change in mortuary statistics. Now just here I wish to call attention to a most important function of the nasal mucosa and its unique blood vessels. When there is a sudden fall in the mercury, or for any other reason the body is subjected to excessive conduction and radiation of heat from the surface, followed by an immediate contraction of cutaneous vessels, there is at that instant a dilatation of the vessels in the nasal mucous membrane, with great engorgement of the erectile tissue. The physiological activity of the sweat glands is reduced, but there is a tremendous stimulus given to the secretory glands of the Schneiderian membrane. In this way the vascular system has an outlet, a sort of safety valve. There is a wonderful economy of nature in this arrangement, for the engorgement of the nasal blood vessels serves a double purpose under the circumstances—increasing

the temperature in the heating apparatus and at the same time decreasing the tension in blood vessels of the organism. The nasal mucosa is therefore not only a warming pan—it is also a safety valve. Now in a healthy individual the filling up of the nasal vessels for the prevention and regulation of extreme blood pressure is a perfect physiological process, and is devoid of any inconvenience. When the cause is removed these vessels are again emptied and the secretion diminished. This process occurs frequently and it is only when the atmospheric changes are excessive, or after very prolonged exposure, that the engorgement may develop into an inflammation. More often, however, there is some systemic derangement, forming a complication, such as constipation, torpidity of kidneys or liver. Under such circumstances the Schneiderian membrane is exposed to prolonged engorgement. The slightest breath of fresh air may be sufficient to produce a cold in the head which may prove stubborn and intractable.

Now, to revert for a moment to the physiological action of this membrane, it is necessary to distinguish facts from theory. There can be no question about the anatomical arrangement of nasal mucous membrane and its rich vascularity. That there is great engorgement of these vessels when the body is exposed to cold is also beyond dispute. It is also a fact that a similar hyperaemia is not produced in other tissues. Now in normal cases we know that the blood pressure does not rise *pari passu* with the contraction of the cutaneous vessels. It seems, therefore, a legitimate inference that the hyperaemia of the mucous membrane of the nose and its rapid excretion prevents the excessive

blood pressure. It is well known that very sensitive sympathetic relations exist between the mucous membrane and the skin. The embryological resemblance of the epiblastic and hypoblastic tissues always remain in spite of the many differentiations for the various physiological functions, and like true brothers they bear each other's burdens.

The anatomical structures of the nose may to a certain extent account for the ready engorgement of the nasal vessels when subjected to increased pressure. Unlike the other mucous surfaces the lining of the nasal fossæ remain patent, and accordingly the underlying blood vessels are unsupported. This much space has been devoted to the function of this organ, because I believe that such consideration forms a proper basis for rational treatment and at the same time is in itself a very strong plea for conservatism.

The most common etiological factor in the causation of acute rhinitis is exposure to cold and sudden changes of temperature. To this must be added the inhalation of irritating particles and gases. A repeated recurrence of acute rhinitis from whatever cause leads to vasomotor derangement, dilatation of the vessels and increased activity of the mucous glands, ultimately ending in engorgement of the erectile tissue and escape of leucocytes. This last condition is designated simple hypertrophy. John McKenzie believes it is the result of frequently recurring erections associated with repeated attacks of acute and subacute catarrh. Bosworth does not recognize the above of importance, but teaches that genuine hypertrophy is nearly always subsequent to anterior stenosis, due to septal outgrowths and deformities, and less frequently to collapse of the alae. Lennox Browne

shows that fifty per cent. of all cases suffer from hypertrophic rhinitis and about fifty per cent. of those were the subjects of very obvious deviations of the septum, while those with spurs and deviations in connection with hypertrophy were about thirty per cent. Thus it will be seen that anterior stenosis and spurs play a very important part in the treatment of hypertrophies.

When, in the absence of acute attacks, the nasal channel becomes persistently closed from time to time, there is a certain degree of hypertrophy present, along with a persistent disturbance of nutrition and a perversion of the processes of elimination.

Sneezing is a symptom often experienced when hypertrophic changes are present. With it are associated a free watery discharge from the nose and effusion and redness of the eyes. These symptoms may be quite ephemeral and may be unattended by any visible constitutional effects. They are significant inasmuch as they indicate a sensitive organism, rather than any peculiarity in the pathologic condition.

In the treatment, the diet and the hygienic conditions in general must never be lost sight of. When we remember that there is not only a small patch of diseased mucous membrane but a general derangement of the vasomotor system, and a disturbance of circulation, we must give first attention to systemic therapy. In this connection I believe the equalization of temperature is important. In bad cases, where there is an acute attack, to put the patient to bed is unquestionably the best means of obtaining an even, warm temperature.

A second indication is a light, easily digested diet—such a diet as will also be

easily eliminated. It should contain plenty of liquid.

By these means the blood should be coaxed, as it were, back to the remote tissues of the organism in increasing quantities.

The vasomotor nerves should be toned so that ordinary temperature changes could no longer throw it into confusion and destroy its inhibitory actions upon the constricting fibres of the vessels. I shall not dwell longer on this important part of the treatment, but shall here mention some local and medicinal measures that I have found useful. At the outset I wish to state, that while in certain cases local treatment is beneficial, in the majority of uncomplicated cases of acute rhinitis local applications of any kind are harmful. When there is excessive discharge I have found orthoform, pure or combined with sodium sozocodolate when insufflated, frequently to control the excessive discharge. Adrenalin affords temporary breathing space and is particularly recommended during acute tumefaction. Distilled extract of *Hammamelis* is particularly efficacious where there is epithelium desquamation.

In consideration of the transitory stage following the foregoing pathological change, one must determine how far it is prudent to pursue such treatment before resorting to more radical measures. Believing as I do in the great need of preserving as much as possible of the mucosa, I think it best to encourage the absorption of any redundant tissue. Iodine mixed with glycerine in the proportion of 1 to 20, or even stronger, and applied on cotton placed in situ until the tissue no longer responds, often yields good results.

A mixture of iodine and potassium

iodide, on account of its astringent and absorbent action, applied locally, acts well. Chinotropin, which is a combination of atropine and quinic acid, given in ten grain doses with plenty of carbonated waters in rheumatic and gouty conditions, is especially valuable where there is defective eliminating powers of the kidneys.

Electrical massage of the inferior turbinate body is beneficial in neurotic cases caused by faulty elimination. In these there is vascular dilatation with engorgement caused by an affection of the nerve terminals. The current should be applied from three to four minutes. This produces a thin mucous discharge, lessens the oedematous hypertrophy and leaves the mucous surface a light red.

Swabbing the surface with cotton and applying Boulton's solution, keeps the vessels for a longer time in a state of contraction, and encourages new cell proliferation.

Engelmann. Faradic massage augments the stimulating effects of massage and by the penetrating powers of the current extends its range of action to the deeper tissues, without adding to their superficial irritation. The calming sedative effects of the mechanical manipulation is likewise increased by the direct action of tension currents upon nerve terminals.

Chromic acid is used more generally now than in the past. It is particularly adapted to cases where the turbinate body is particularly spongy and yields to the action of adrenalin.

Golstien has devised a special trocar and canula to carry chromic acid into the submucous tissue for cauterization.

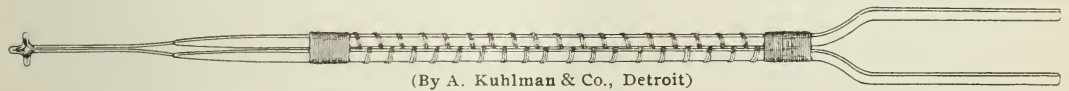
M. Gaudier, in 1898, reports cases (*Hamm methods*), in which he injected submucously zinc chloride with fair results.

Violette injects five drops of a ten per cent. solution of zinc chloride and in a few weeks the mucosa subsides to its normal size.

When there is no deformity of the nasal septum, or other growths obstructing the passage, and the tumefaction partially yielding to cocaine, I believe the galvanic cautery will do more to relieve this form of hypertrophy of the inferior turbinate than anything else. The objects to be attained by cauterization are, first, to secure as small a slough through the destruction of the mucosa as possible; secondly, to shrink the underlying vascular

of the organism in a sound condition is the best safeguard against this and most other diseases, but I wish to refer particularly to the necessity in this connection of taking proper care of ordinary acute attacks of rhinitis. As I have already stated, hygienic measures are of first importance; next to these, I believe, comes judicious medication. This should have for its purpose and end the reduction of blood pressure, the elimination of toxic material through the stimulation of the emunctories and the toning of the nervous system.

The first indication is filled better by



(By A. Kuhlman & Co., Detroit)

tissue and creates adhesions to the periosteum. This electrode (see plate) resembles some others in outline, only the platinum is so bent that there are three processes extending from one side, so when applied to the mucous membrane and the current turned on, by pressing lightly it burns its way deep down to the superficial layers of the mucosa, shrinking the vascular tissue and tucks down the redundant tissue to the periosteum, thus preventing a loss of mucosa which would naturally follow too much cauterization and encouraging atrophic changes.

Posterior hypertrophies can be reduced more safely by the cold snare on account of its proximity to the eustachian tube, than by any other means, and hypertrophies of the anterior extremity by scarification.

Finale. In this brief paper it is only possible to refer in outline to some of the measures useful in the conservative treatment of this very common disease. Before closing I wish to say a word about prophylaxis. Of course the maintenance

calomel than by any other drug.

Laboratory experimentation to the contrary, I believe that professional experience has established a fact that for a safe, rapid, cholagogue action, nothing quite equals the drug above mentioned.

DISCUSSION.

WILLIS S. ANDERSON, DETROIT.

I wish to commend the paper of Dr. White, if for no other reason than that he does not advocate any one method for all cases. I believe that the proper treatment of hypertrophic disease in the nose depends on treating each case according to the condition found, and not treating all cases by one method. I am very glad that Dr. White emphasizes this point.

The cautery knife which he has devised seems to me to be a very useful little knife in a certain number of cases. I can understand how some hypertrophies of the inferior turbinal, extending far back, would not be best treated by this knife. It seems to me a long, lineal cauterization would be more satisfactory, but for a great many cases his knife has decided advantages over some others.

J. V. WHITE, DETROIT.

The only remark I wish to make is that the knife I have passed out here is not made exactly as I would like it. The processes are not deep enough, but the general outline of the knife is my ideal one.

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Address of Secretary

Editorial

THE EXCELLENT WORK OF THE COUNCIL.

27 Counties Chartered. Membership,
1,200.

As it is now well known, the State is divided into twelve Councilor Districts, to conform to the present congressional apportionment.

The Districts comprise the following Counties respectively:

- First District—Wayne.
- Second District—Jackson, Lenawee, Monroe, Washtenaw.
- Third District—Branch, Calhoun, Eaton, Hillsdale, Kalamazoo.
- Fourth District—Allegan, Barry, Berrien, Cass, St. Joseph, Van Buren.
- Fifth District—Ionia, Kent, Ottawa.
- Sixth District—Genesee, Ingham, Livingston, Oakland.
- Seventh District—Huron, Lapeer, Macomb, Sanilac, St. Clair.
- Eighth District—Clinton, Saginaw, Shiawassee, Tuscola.
- Ninth District—Benzie, Lake, Leelanaw, Manistee, Mason, Muskegon, Newaygo, Oceana, Wexford.
- Tenth District—Alcona, Alpena, Arenac, Bay, Cheboygan, Crawford, Emmet, Gladwin, Iosco, Midland, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle.
- Eleventh District—Antrim, Charlevoix, Clare, Grand Traverse, Gratiot, Isabella, Kalkaska, Mecosta, Missaukee, Montcalm, Osceola, Roscommon.
- Twelfth District—Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, Schoolcraft.

Since the reorganization the following County Societies have been chartered as Branches of the State Society and are in good working order:

- First District—Wayne.
- Second District—Jackson, Monroe.
- Third District—Branch, Calhoun, Eaton, Hillsdale.

Fourth District—Allegan, Barry, Van Buren.

Fifth District—Ionia.

Sixth District—Genesee, Livingston, Oakland.

Seventh District—Lapeer, Sanilac.

Eighth District—Saginaw.

Ninth District—Manistee, Mason, Wexford.

Tenth District—Bay, Crawford, Montmorency, Ogemaw, Oscoda, Otsego.

Eleventh District—Grand Traverse, Gratiot, Mecosta, Montcalm, Roscommon,

Twelfth District—Houghton.

As the Counties of Ogemaw, Montmorency, Crawford, Oscoda, Roscommon, and Otsego are thinly populated and are adjacent, the physicians thereof have united in forming a County Society known as the O., M., C., O., R., O. County Society, which formation is permitted by the By-Laws of the State Society.

Most of the County Societies meet but once quarterly, so that it takes some time to get them organized, and when organized it has often been found desirable to keep the list of membership open until the following meeting, so that every physician of the County eligible to membership may join as a charter member.

The response to the appeal of the Councilors of the respective Districts has been so enthusiastic, the large enlistment of the members so gratifying, that the Society may be congratulated most heartily upon the work already accomplished.

To date the membership in the State Society has nearly reached the 1,200 mark; more than 750 of these are members of their County Societies. For the remaining members in most cases there has been no County Society to join. Yet in some instances old members of the State

Society have not yet joined their local organization. We do not feel that this is from any lack of appreciation or interest in the work of organization, but is more from procrastination. To these members we would earnestly appeal again for their support and their encouragement, which may be manifested by joining their respective County Societies at once. In this work we need the assistance of every member of the State Society.

Of those County Societies organized but not yet chartered, we would ask that they complete their work of organization at the earliest possible moment.

As only those County Societies which are chartered will be entitled to representation by delegates at the next annual meeting of the State Society, and as it is very important that we have a strongly representative meeting of the profession of the State, not the least of the old members of the State Society, it is urged that these members make every effort to organize a County Society in their respective Counties.

SOME FACTS AND FIGURES.

"What is the membership of the State Society?" "What has been its growth since its reorganization?" These questions are often asked. The old member who has had an active interest in the State Society for many years exhibits great surprise when told that there are 1,174 members, which number is almost daily increasing, and that in answer to his second question, the membership has nearly doubled since the meeting of June, 1902, at which time the reorganization was effected. The actual figures are as follows:

Members enrolled immediately after June, 1902, meeting..... 684
 New members who have joined through affiliated County Societies. 451
 Old members (who had been dropped for one cause or another) who have rejoined through County Societies. 39

Total State Society membership... 1,174

The affiliated County Society membership is made up as follows:

1. State Society members (previously in good standing)..... 295
2. Members who had never been State Society members..... 451
3. "Dropped" members of State Society who have hereby regained their membership 39

Total County Society membership. 785

The difference in the above totals shows 389 State Society members unaffiliated with chartered County Societies, of which number 90 have not joined their respective County organizations, and 299 have, as yet, no such organization to join.

There are at this writing 27 chartered County Societies which include members from 32 counties. There are other societies formed but yet unchartered.

Through the energetic efforts of the Councilors of the State Society, County Society organization has been more rapid than even the most ardent advocate could have anticipated. Time alone will tell how well the interest in local societies will be kept up, and how lastingly this greatly and rapidly enlarged State organization is builded. The permanency of the Society no longer depends entirely on it and its officers, but rather on the officers, in fact, the individual members, of each County

Society. The decline of a County Society means a corresponding loss to the State Society, and to guard against this must be the aim of all. But when it is realized that each Councilor District is under the direct supervision of its Councilor, elected for six years, and responsible to the Council, and that *THE JOURNAL* will also keep in touch and in active work with every County Society, and that one of the principal functions of the Council is the nurture of these County Societies, no one can doubt the permanency of our organization.

Never before has such systematic work been done, and never before have the County Societies been Branches of and under the direct control of the Council, the President, Vice-Presidents, and other officers of the State Society.

THE PATHOLOGICAL EXHIBIT FOR THE MEETING OF 1903.

The Pathological Exhibit Committee has commenced planning for the next meeting. A large and well-lighted room has been secured which will give ample space for the gross specimens and many microscopes.

This very interesting and instructive adjunct to our annual meetings should be encouraged by every member of the Society who can contribute to the exhibit. By communicating early with the committee, of which Dr. Thaddeus Walker, Detroit Clinical Laboratory, 33 Mullett Street, Detroit, is the chairman, as to the nature of the material possible to send, exhibits can be classified into groups as anatomical, physiological, pathological, and bacteriological specimens, dealing

with particular subjects or phases of pathology. In order to make the exhibit of educational value, specimens should have complete histories and be carefully labelled and catalogued. Arrangements are being made also for exhibits of research and experimental work to illustrate the progress being made along these lines.

Commercial concerns can obtain space in another part of the building to show their instruments and products, which in many cases represent great progress in scientific medicine.

CRYPTORCHISM.

The testes in their normal course descend from their position in the embryo at the lower portion of the kidney along the psoas muscle, through the internal abdominal ring, then along the inguinal canal through the external ring and into the scrotum. They may be arrested at any point in their normal migratory course, and if so, this condition is known as cryptorchism. The abnormality may be divided into abdominal and inguinal. When the testes are retained within the abdomen no form of treatment is recommended. When retained in the inguinal canal they may be transplanted to their normal condition in the scrotum if the cord is not too short to permit of it. A plan of lengthening the cords, by separating the lower portion of the epididymis (the globus minor) from the body of the testis and making it a portion of the cord, was demonstrated before the Surgical Section of the Wayne County Medical Society November 3, 1902.

A photograph of a patient, twenty-one years of age, who had had his testes

transplanted one and a half years previous and cords lengthened by this method, was shown. The scrotum was well distended and the testes hung free.

SECTION WORK IN THE WAYNE COUNTY MEDICAL SOCIETY.

The principal problem confronting the directorate of a large medical society is how best to arouse the interest and utilize the often latent energy and ability of all its members.

It is safe to say that less than fifty per cent. of the profession can be considered *active* in society work, either as regards reasonable regularity of attendance or the contribution of papers or discussions. What is the matter with the other men? Simply that they have not found the society of personal value. Undoubtedly a man will get personal value from attendance alone, even if he contributes nothing, but to secure even his attendance we must first arouse his interest.

How can this best be done?

Perhaps seventy-five per cent. of the profession in Wayne County are general practitioners; fifteen per cent. are general practitioners doing considerable special work; ten per cent. are specialists. Hence seventy-five per cent. of the Wayne County Medical Society members are more interested in the etiology, diagnosis and treatment of pathological conditions presented in a broad, general way than in the technique of operations, which they do not do, or the description of cases rarely seen. Therefore, it seems rational to believe that interest may be stimulated, our average attendance increased, by catering in the weekly meetings largely to the needs of the general practitioner, at the same time

providing special meetings for the twenty-five per cent. interested in special work.

After considerable discussion individually, and as a Society, the following plan is being tried: Four Sections have been organized, each meeting once monthly on Monday evening; *i. e.*, first week, Surgery; second week, Internal Medicine and Pathology; third week, Obstetrics and Gynecology; fourth week, Eye, Ear, Nose and Throat.

Any member of the Society may register for Section work upon payment of one dollar yearly, registering and working in more than one Section if desired without extra charge. This special fee gives cohesion to the Sections and helps the Society defray the extra expense incurred by them. All Society members are welcomed at Section meetings, though not as active members unless registered as such. Each Section elects its own chairman and secretary, the eight Section officers constituting the Society's Standing Committee on Section Work, and the four Section secretaries, with a chairman appointed by the President, form the Society's Program Committee.

Thus the Sections are made an integral part of the Society work, and the program goes out weekly as a part of the Society's program.

Each Society member is expected to attend so far as possible five meetings a month, the weekly general meeting, and once monthly the Section in which he may be especially interested. There should be sufficient material in an active society of four to five hundred to provide an average of two papers for each general meeting, expecting the Sections to be maintained by the twenty-five per cent. who have asked for them.

Section work is a new thing in Wayne County, and, like every new thing, an experiment, dependent for success upon the energy and enthusiasm of its supporters.

It is hoped by it to forestall the formation of other societies to provide opportunity for special workers along special lines, and to interest the general practitioner in the general meetings through a broad program covering the general principles and fundamentals of medicine and surgery.

FRANK BURR TIBBALS,
*President, Wayne County
Medical Society.*

Communications.

MUST A MEMBER OF STATE SOCIETY AFFILIATE HIMSELF WITH HIS COUNTY SOCIETY?

Grand Rapids, Mich., Nov. 21, 1902.

A. P. Biddle, Editor:

Dear Dr. Biddle—In the November issue of *THE JOURNAL* Dr. Bulson contends that a physician cannot consider himself a member of the Michigan State Medical Society unless he be a member of an affiliated County Society. I have just come into the knowledge that this statement is occasioning a great deal of comment.

In making the above statement Dr. Bulson excludes from membership a great number of old and respected members, who have every reason to feel hurt at such a ruling; and it is the expression of such feelings that has come to me which brings me to the writing of this letter.

I regard Dr. Bulson as entirely wrong in this matter, and would advise that something in the way of an explanation appear in the next issue of *THE JOURNAL*.

Very truly yours,

CHAS. E. HOOKER.

Detroit, Mich., Nov. 22, 1902.

Chas. E. Hooker, M. D., Grand Rapids, Mich.:

Dear Dr. Hooker—With your permission your letter has been forwarded to Dr. Bulson.

If you refer to the paragraph, "In this connection I may say that I find quite a belief

among the members of the old Society that, if they pay the annual dues to the Society, they can hold their membership, and not necessarily be in affiliation with the County Society. The Constitution expressly states that the membership in the various County Medical Societies, reported by the Secretary of the same to the Secretary of the State Organization, shall constitute the membership of the latter," in Dr. Bulson's communication to *THE JOURNAL* of November, 1902, (Vol. 1, No. 3, page 138), I must state that I cannot agree with you. Dr. Bulson has given the only interpretation possible. I would respectfully refer you to the Constitution of the State Society, especially to Art. III., which defines the Component Society, and to Art. IV., Sec. 2, which defines the membership of the State Society. It has been ruled by the Council that a physician cannot be a member of his County Society without being a member of his State Society (See Editorial, "The County Society a Unit," *JOURNAL*, Vol. 1, No. 3, Nov., 1902, page 137); and it will undoubtedly be ruled that a physician, in whose County a regularly chartered branch Society exists, cannot remain, after a period to be fixed by the Council (which period will, undoubtedly, be liberal), a member of his State Society unless he is in affiliation with his County Society; and in this we have the backing of the American Medical Association, which will refuse admission to its ranks of any physician in the State of Michigan who is not on the roll of the State Society. The State Society and its Branches must be one to insure harmony and progress.

I would invite your attention also to the minutes of the General Sessions of the State Society at its Annual Meeting, published in this issue of *THE JOURNAL*, page 190.

I deeply regret that there should be any misunderstanding, for the encouragement and active support of the physicians of Kent County, and more especially of the older members of the Society, is needed and will be appreciated. It is hoped that the members to whom you refer will give this matter their most earnest consideration before taking any steps which will retard the onward march toward the goal which your officers have been so unselfishly working for.

Yours respectfully,

A. P. BIDDLE.

Jackson, Mich., Nov. 24, 1902.

A. P. Biddle, Editor:

Dear Dr. Biddle—I am in receipt of your letter of November 22nd, containing enclosure of a correspondence criticising, in part, certain statements made by me in my article as published in

the November JOURNAL of the Society. I regret, exceedingly, that there should be a misconception of the spirit and work of the Committee on Constitution and By-Laws by any "great number of old and respected members" of the old organization in regard to the purpose of the work of the new organization of the medical profession of Michigan.

It is plainly to be seen that the plan adopted, "without a dissenting vote," at the Port Huron meeting of the Michigan State Medical Society, was that "Component Societies shall consist of those County Medical Societies which hold charters from this Society." (See Article III., Constitution of the Michigan State Medical Society, JOURNAL, Vol. 1, No. 2, Oct., 1902, page 90.)

Article IV., Sec. 2, reads: "The members of this Society shall be the members of the Component County Medical Societies." It will readily be seen that every County Society must necessarily be a unit of organization of the Michigan State Medical Society; and that when the new Constitution and By-Laws of the State Society was adopted it decreed the membership to consist of the members as defined in Section 2, Article IV., of the Constitution, above referred to.

However, express provision has been made by the officers of the State Society to retain as members those physicians who are affiliated with that Society, but who reside in Counties where no Component Society has been organized, until a time when such an organization shall have been perfected and the same affiliated with the State Society.

This interpretation is the only one that can be given to the articles referred to, and the only alternative for the officers of the State Society. The same provision carries equally with it the necessity of every member of the County Organization being also a member of the State Society.

Were we to countenance or to adopt any plan of organization other than that provided for by the Committee on Organization of the American Medical Association, it will readily be seen that the work would be chaotic and conflicting in all of its details.

I find, also, that there is some doubt on the part of the profession as to the power of the State Medical Society to make such a radical change in the organization—some even claiming it to be unconstitutional. I believe that every consistent and unbiased person will agree with me that the inherent power of an organization lies within itself; that it has the power to create a new organization and make it immediately

operative, which is only a counterpart of the plan adopted by the American Medical Association at the St. Paul meeting. If the national body, by a majority vote, decided this action to be legal, certainly we can use that as a precedent for the action of the State Medical Society at the Port Huron meeting in June. That meeting of our State Society was the largest and most representative meeting ever held, and the adoption of the report of the Committee on Reorganization was *unanimous*.

The plan adopted by the American Medical Association is that membership must be held successively in the County and State Societies in order for one to become eligible for membership in the American Medical Association.

It is to be regretted that any member can feel aggrieved over the present plan of organization of the profession of Michigan. Certainly every physician should take pride in trying to elevate the standard in his own locality, as around it must center the strength and professional ability of every physician within its jurisdiction. The County Society must be made strong and representative in every detail. The object of the organization is that we may have a harmonious combination of County, State and National organizations. To make any exception to this plan, to please any individual or society, would only mar the whole and create discord and confusion.

I sincerely trust that every physician, who is eligible to membership in our State Society, will carefully read our Constitution and By-Laws, and be governed by an unbiased judgment in its interpretation, and unite heartily in the work so auspiciously begun, and which is being carried forward so successfully by the great majority of the medical profession in our State.

A. E. BULSON,

President, Michigan State Medical Society.

I am in receipt daily of inquiries from other States asking for information relative to the American Confederation and its work, and I can safely and surely predict the rapid growth of medical reciprocity and uniformity of qualifications under the auspices of the American Confederation of Reciprocating Examining and Licensing Medical Boards. (B. D. Harison, M. D., Secretary.)

County Society News.

APPLICATIONS.

The State Society submits the following as a sample :

APPLICATION FOR MEMBERSHIP

IN

The..... County Medical Society

..... County Branch of the
Michigan State Medical Society.

190.....

I hereby apply for membership in the.....
County Medical Society, agreeing to support its
Constitution and By-Laws and the Code of Ethics
of the American Medical Association.

(Signed).....

P. O. Address.....

Where Graduated..... Date.....

Other Degrees.....

Hospital or College Appointments.....

Member of other Societies.....

Date of License to Practice in Michigan.....

Date of Registration in..... County Clerk's

Office.....

Name of Member of this Society for Reference.....

N. B.—The Annual Dues of three dollars (to include also membership in and dues to the Michigan State Medical Society, and its monthly Journal) must accompany this application.

Wishing to make THE JOURNAL of the greatest possible interest to the members of all County Societies of the State, the editor has sent the following letter to the Secretary of each branch County Society :

Detroit, Nov. 25, 1902.

Dr.

Sec'y County Med. Soc.

Dear Sir:—THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY desires to establish a column devoted to matters of interest and importance occurring in all the County Societies of the State. To this end we recommend that each County make the Secretary of its Society a reporter for that Society, and direct him to send such information as he believes of value and interest to THE JOURNAL for publication.

We would further urge that the reporter send to THE JOURNAL each month short extracts of all papers read before his Society and valuable papers in their entirety. THE JOURNAL will endeavor to make use of all such matter.

The State Society submits the following as a sample of an Additional Application :

ADDITIONAL FORM OF APPLICATION

For Active Membership in the..... County
Medical Society by those who have pro-
fessed to practice medicine
according to a dogma

In consideration of my application for active membership in the..... County Medical Society, made..... 190..... and in view of the fact that I have practiced medicine according to the doctrine of the..... school, I hereby agree that in the future I shall not profess to practice according to this or any other dogma; neither shall I form or maintain affiliation with any institution or society of any kind whatever which countenances or supports such doctrine or dogma.

..... M. D.

WAYNE COUNTY MEDICAL SOCIETY.

HUGH MULHERON, Detroit, Secretary.

"SEEING, YE SHALL SEE."

ABSTRACT OF A PAPER BY DAVID INGLIS, DETROIT.

The title of the paper refers to the significance of pathologic conditions which are to be seen upon the body. We all need to keep our eyes open to see what we should see and what is in plain sight. The course of a black eye shows that the blood breaks down and is absorbed, leaving only pigment, which is in turn absorbed. It is so with a clot on the brain. Be cautious against trephining in case of a blood clot of some time standing. A chronic ulcer of the leg is in plain sight, although quite a compendium of pathology. It may be a syphilitic ulcer, with its slowly spreading endarteritis, and consequent increase in the size of the ulcer. Now, imagine the same process involving the middle cerebral artery. Nothing is more characteristic of syphilitic ulcers than their varying progress. Nothing is more characteristic of cerebral syphilis than the varying phases. Vigorous treatment will improve either condition, but there is always a scar left. Thus we can see the conditions which underlie the terminal dementia of old cerebral syphilis. Again, in a senile ulcer, one sees the skin shrivel up, and realizes that the thickening arteries make it hard for the heart to pump the blood through. The same condition will be found in the cerebral vessels, which process accounts for the impeded blood circulation and the consequent symptoms—vertigo, forgetfulness, weakness and numbness of the extremities, etc. A blow on the head, sun-stroke, excessive eating or drinking, long continued congestive migraine, cause a cerebral congestion similar to the condition found in the varicose ulcer of the leg, the essential conditions which underlie the chronic dementia. In the drunkard's nose is not only found the redness and the hypertrophy of the tissues, but also miliary aneurisms. The same conditions which have caused these aneurisms in the nose have operated upon the vessels of the brain, and rupture of a miliary aneurism is a common cause of cerebral hemorrhage. The author cites a case which had three attacks of herpetic eruptions, each attack lasting four days. Three times there were symptoms of acute meningitis, but each attack subsided in four days, it undoubtedly having been due to the same cause as that of the herpes. Warts of considerable size often disappear. In locomotor ataxia the growth is no more substantial than that of a

wart. In view of the fact that only in the later stages of tabes are the nerve structures destroyed, would it not suggest that some similar influence which removes a wart might obliterate the scar of tabes? To further illustrate the relation between visible conditions and symptoms due to internal disturbances, a case of alopecia areata, which spread to such an extent that not a hair on the body was left, was cited. This case developed acute dementia. Could it not be that the same cause, which was responsible for the alopecia, was also responsible for the mental condition? The contraction of the peripheral arterioles in the alopecia could easily be imagined to work in a similar manner in the brain.

The author believes that pathologists are too pessimistic. All the discoveries in medicine have not yet been made.

DISCUSSION.

A. E. CARRIER.

Dr. Inglis has drawn attention to a number of diseases of the skin. There is one in which we have the sudden loss of hair in spots, in which, after the disease has persisted for a time, there is undoubtedly atrophy. Sections have been made of these spots, and it has been found that the papillæ of the skin have almost entirely disappeared, showing undoubted nervous influence, the disease being, undoubtedly, a trouble of the nervous system, at the center, manifesting itself about these spots. In alluding to the wart, there are other conditions which are much like the wart, which follow the course of cutaneous nerves, along which the trouble is practically centered. One is lichen. Again, we find over certain regions, which are supplied by certain nerves, collections of water blisters. In the case of lichen, unless we consider the fact that there is a central origin for it, we may fail to get at the root of it, which is in the nervous system. In the same way in regard to the herpetic conditions the doctor spoke of. It may be that there are eruptions in the nerve trunk or at its root. It seems to me that the study of nervous diseases and the study of dermatological affections very closely lap, because they are so closely connected in cause and effect.

H. W. LONGYEAR.

I was thinking, as I listened to the doctor's paper, that old women are not so far from right when they speak of diseases striking in, as herpes. We have all of us seen other diseases, such as a chronic exudate, suddenly cease, and the patient at the same time have some serious internal symptoms, as dysentery or hemorrhage of the kidneys, etc.

JOHANN FLINTERMANN.

The doctor made a remark about peculiar symptoms of cerebral irritation in a case where a patient had repeated attacks of herpes zoster. There are cases, for instance, of asthma, which act in a similar way. There is another pathological condition, for instance, herpes of the mamma, which is always a preliminary symptom of carcinoma of the breast. I saw the case of a lady 75 years old, who had an attack of herpes, and a year afterwards she had carcinoma of the breast. Eczema is often a forerunner of carcinoma of the breast. We, as practitioners, are not in a condition to make laboratory investigations; but at the same time, at the bedside, if we watch certain pathological phenomena and study them, we would be able to get an idea, connecting what we see externally with some other pathological manifestations.

H. A. WRIGHT.

We must remember that Dr. Inglis is a very ingenious essayist, and unless we exercise great care we are liable to be led into error, and arrive at erroneous conclusions when reasoning by analogy, as the doctor has done. This thought was forced upon me as he read his essay, because of the conditions referred to. For instance, the black eye and the clot in the brain are similar organic changes, but in the case of the persistently progressive alopecia, concurrent with the primary dementia in the same patient, he would lead us to infer that there are similar, or some brain lesions, as there were in the scalp. Yet our pathologists have not yet shown any pathological changes in cases who have died of primary dementia, it being classed as an inorganic psychosis. We must not confuse this with so-called parietic dementia, a very different condition entirely. It is when we fail to distinguish between such different conditions that we are apt to fall into error.

A. W. IVES.

I think in reasoning by analogy it teaches us that there is a physical basis for every psychical and mental act; and when we call a disease a nervous disease or any other disease we use the word functional to express our ignorance. The fact that we can not find a lesion by the microscope does not mean that there may not be all sorts of abnormal conditions of the nervous system. The paper suggested that to me, instead of the opposite suggestion which Dr. Wright brings out.

W. WARREN.

It struck me in this paper that Dr. Inglis is making an unusually eloquent plea for the clinician—for the bedside student of medicine. Dr.

Inglis impresses upon us a little closer attention, a little more accuracy and intelligence of observation, and I think that that is a feature perhaps developed more by the English physicians than by ourselves. Those of us, particularly, who were trained more in laboratory methods and in diagnostic methods, by the results of the post-mortem examination microscopically, are apt to overlook the things which appeal to one's senses as the result of observation.

GUY L. CONNOR.

One of the most essential requirements of a successful physician is to see everything that is to be seen. For instance, a man had a pain in his thorax, symptoms of dyspnoea. Unsuccessful attempts had been made to diagnose the case correctly. The successful physician insisted upon removing the shirt, when, upon turning the patient on his side, a large tumor was seen projecting from his back. It turned out to be an aortic aneurism. Dr. Inglis' first illustration in regard to the black eye: I would suggest that in some cases the clot is not always absorbed—for instance, the case of a blow on the eye; afterwards a tumor develops in the eye. The tumor was dissected several years afterwards, and it turned out to be a blood clot.

DAVID INGLIS.

I purposely left out the organized blood clot, because when it once becomes organized it is no longer a clot—it has now become an organized structure, and the problem is a wholly different one. That, years after a cerebral hemorrhage, we may find a cicatrix where the clot once was, is true; but we are then face to face with the problem whether anything can be gained by removing an old cicatrix and leaving, behind the operation, a new one.

Dr. Warren has said that the English medical men are better clinical physicians than we are. I think he is correct in this. The best text-books on practice of medicine are by English writers. So true is this that some of the older authors, who antedated the pathology of our day, are, nevertheless, most instructive teachers to-day, and that because of their wonderful acuteness of clinical observation.

To Dr. Wright let me reply thus: I did not say that there was an exact correspondence in time between the alopecia and the dementia—indeed, the one preceded the other, but I believe that the one process throws light upon the other. It is true, as Dr. Wright says, that in primary dementia we are generally unable to demonstrate visible pathological changes, but that in both the alopecia and the dementia there was a pathological change seems almost a necessary proposition.

No one would, I think, dispute the proposition that underlying the alopecia, preceding it and causing it, was some widespread general change in the nutritive processes, in all probability in the blood supply. It is equally unthinkable that the dementia was not in similar relation to nutrition of the brain neurons.

The case seems to me to illustrate, in the clearest way, the fact that physical causes underlie mental changes, even when these processes can not be made visible to us.

OFFICIAL MINUTES OF THE GENERAL SESSION OF THE MICHIGAN STATE MEDICAL SOCIETY AT THE ANNUAL MEETING, JUNE 26 AND 27, 1902.

Wednesday, June 26, 9 a. m.

Called to order by the President, Leartus Connor, Detroit.

Address of welcome by the Mayor, Hon. Fred T. Moore.

Report of the Executive Committee, C. B. Stockwell, Port Huron.

Report of the Treasurer, Chas. E. Hooker, Grand Rapids:

"The funds of the Society have been received and disbursed as follows:

RECEIPTS:

Cash on hand at 1901 meeting...	\$ 658.07
Amount collected 1901 meeting..	907.00
From W. H. Haughey, balance from exhibitors	30.00
From J. H. Kellogg, for half-tones in 1901 book.....	29.80
Dues collected since 1901 meeting	1,108.00
From Dr. Willy Myer, New York, one copy 1901 book....	1.50
	<hr/> \$2,734.37

DISBURSEMENTS:

Honorarium to Secretary for 1901	\$ 300.00
Honorarium to Treasurer for 1901	150.00
Reporting proceedings of 1901 meetings	165.00
Printing 1901 transactions.....	903.59
Miscellaneous printing, stationery, postage	175.00
Distributing transactions	111.76
Printing programs, containers and mailing same.....	102.00
Committee expenses	83.54
Secretary's expense	18.77
Treasurer's expense	11.33
Michigan Passenger Association.	5.00

Bank exchange .....	.70
Upper Peninsula Medical Society, Beaumont Memorial	257.50
Of \$100 appropriation for Pathological Committee	4.50
Refunded to postponed applicant.	5.00
	<hr/> 2,293.69

Cash balance\$ 440.68

ASSETS:

Cash on hand\$440.68

LIABILITIES: None."

Report accepted.

The Treasurer then submitted a report in regard to the right of the Society to charge the initiation fee of \$2.00, which report was referred to the Judicial Council, and by the Council declared to be unauthorized:

"The Judicial Council of the Society begs to report as follows:

Concerning the interpretation of the by-laws relative to the collection of a membership fee of \$2.00 as distinct from annual dues of \$3.00, the Judicial Council holds that at present there is no authority for the collection of a membership fee of \$2.00; that the total amount collectable under the wording used in the by-laws, viz.: membership fee and annual dues, is \$3.00.

B. D. HARISON.

A. W. ALVORD.

H. B. LANDON."

Report accepted.

Report of the Secretary, A. P. Biddle, Detroit:

"The following were elected to membership from the meeting of 1901 to the meeting of 1902, inclusive:

D. A. Link, Volinia; Chas. Wetherbee, Jones; Anna S. Rundell, Flint; P. I. Edwards, Jackson; Rhoda G. Hendrick, Jackson; T. C. Henry, Jackson; Peter Hyndman, Jackson; J. C. Kugler, Jackson; Jas. McColgan, Grass Lake; E. A. Martindale, Jackson; Martha C. Strong, Jackson; Ralph E. Balch, Kalamazoo; H. O. Statler, Kalamazoo; Wm. Blake, Lapeer; D. L. Treat, Adrian; G. H. Drake, Pontiac; Jeremiah Jacklin, Saginaw; Geo. S. Tweedie, Sanilac Centre; L. M. Ardeil, Avoca; Geo. C. Brock, Smith's Creek; A. L. Callery, Port Huron; J. L. Chester, Port Huron; A. Henri Cote, Port Huron; Thos. E. De Gurse, Marine City; W. P. Derck, Marysville; Jas. A. Frazer, Port Huron; T. F. Heavenrich, Port Huron; W. S. Henderson, Port Huron; A. D. MacLaren, Port Huron; H. R. Mills, Port Huron; R. E. Moss, Port Huron; G. S. Ney, Port Huron; Geo. Treadgold, Port Huron; W. H. Hutchins, Ann Arbor; W. H. Morley, Ann Arbor; G. R. Pray, Ann Arbor; C. G. Anderson,

Detroit; J. F. Bennett, Detroit; Berthold Bertram, Detroit; Leo. Breisacher, Detroit; G. L. Connor, Detroit; J. E. Davis, Detroit; L. J. Goux, Detroit; E. W. Haass, Detroit; W. A. Hackett, Detroit; L. J. Hirschman, Detroit; Wm. B. James, Eloise; Guy L. Kiefer, Detroit; Wm. C. Martin, Detroit; R. T. Mason, Detroit; I. L. Polozker, Detroit; S. E. Sanderson, Detroit; F. T. F. Stephenson, Detroit; A. Thuner, Detroit; H. R. Varney, Detroit; S. J. Wilson, Detroit; H. A. Wright, Detroit; Duncan A. Cameron, Alpena; A. F. Hagadorn, W. Bay City; D. A. Zwihtman von Noppen, Niles; Geo. R. Hyde, Prairieville; Jas. C. McGregor, Flint; Rich'd H. Wood, Montrose; H. B. Anderson, Traverse City; B. F. Green, Hillsdale; P. D. Bourland, Lake Linden; W. H. Coffron, Grindstone City; J. Sylvester Corcoran, Ubly; W. J. Herrington, Bad Axe; D. J. McCall, Elkton; D. D. Munro, Kinde; E. F. Shaw, Williamston; John Gillette, Sparta; C. H. Fairbanks, Grand Rapids; Wm. J. DuBois, Grand Rapids; W. J. Kay, Attica; Edward C. Van DeWalker, Sutton's Bay; Isabell R. Copp, Northport; Zimmerman Ross, Rexton; Theo. A. Smith, Mt. Clemens; A. A. Parisot, Mt. Clemens; J. F. O'Keefe, Mt. Clemens; W. T. Lungershausen, Mt. Clemens; Richard Leuschner, Mt. Clemens; W. T. Atkinson, Marlette; J. E. Campbell, Brown City; L. E. Cochran, Peck; W. J. Foster, Lexington; J. W. Scott, Sanilac Centre; Geo. Sementon, Marlette; J. N. Eldred, Chesaning; William Shaw, Morrice; V. C. Van Liew, Lennon; Wm. I. Whittaker, Durand; E. J. Buck, Capac; Alex. Thompson, Adair; E. P. Tibbals, Port Huron; W. G. Wight, Yale; W. A. Ferguson, Sturgis; A. N. Treadgold, Cass City; E. K. Herdman, Ann Arbor; E. R. Williams, Ann Arbor; Mary G. Haskins, Detroit; O. E. Fischer, Detroit; E. W. Eede, Detroit; W. R. Chittick, Detroit; J. N. Biel, Detroit; G. J. Anderson, Detroit.

The following were dropped at the meeting for non-payment of dues:

*Joseph Beisman, Detroit; †J. N. Buckham, Flint; F. L. Burdon, New Baltimore; W. H. Chivers, Jackson; U. A. D. Collelmo, Wheeler; *W. J. Cree, Detroit; F. W. Edelman, Saginaw; Joseph Foster, Lansing; J. E. Handy, Watrous-ville; Don. Johnson, Marion; H. M. Joy, Calumet; R. J. Kirkland, Grand Rapids; *E. G. Knill, Detroit; John Lee, Detroit; J. I. Mabree, Rockwood; Ora Manly, Ann Arbor; F. G. Novy, Ann Arbor; W. H. Taylor, Clio; E. H. Troy, Detroit; J. E. Wilson, Rochester.

*Restored since through the Wayne Co. Medical Society.

†Restored since through the Genesee Co. Medical Society.

Address of the President: See Journal, Vol. 1, Nos. 1 and 2, September and October, 1902.

Recommendations of the President referred to a committee of five: E. L. Shurly, V. C. Vaughan, J. B. Griswold, A. W. Alvord, and P. D. Patterson.

Report of the Committee on Reorganization, appointed during the year by the President—A. E. Bulson, Geo. Dock, C. T. McClintock—being in substance a new Constitution and By-Laws, adjusting the Society to the reorganized American Medical Association, which was unanimously adopted. (See Constitution and By-Laws, Journal, Vol. 1, No. 2, October, 1902.)

Report of the Michigan Members of the House of Delegates of the American Medical Association—H. O. Walker, chairman:

"The meeting of the A. M. A. at St. Paul, last year, by amending the Constitution and By-Laws, made it mandatory that the business of that body should be done by a House of Delegates. This House of Delegates consists of members of permanently organized State and Territorial Medical Societies, elected by those bodies, together with delegates elected by Sections of the Association, and one delegate each from the several departments of the army, navy and marine hospital service. According to the provisions for representation this State was entitled to two delegates. As the Society did not meet after the meeting at St. Paul, or before the meeting at Saratoga Springs, it became necessary for our President to make the appointments in the interim, and he appointed your reporter one of the delegates, and as his confrere, Dr. V. C. Vaughan. It will therefore be your duty at this meeting to elect our successors.

The House of Delegates met pursuant to call at the United States Hotel, Saratoga Springs, N. Y., June 10, 1902.

The first order of business was the report of the Secretary, the first part of which referred to the immense labor which the Committee on Organization had to perform in reference to the recommendations of the A. M. A. in the adoption by the State and Territorial Societies of the plan for reorganization. They were rewarded in their efforts by a willingness and desire to co-operate with the A. M. A. He called attention to the necessity of some radical and other minor changes in the By-laws to conform to existing conditions, and as to who are and should be members of the A. M. A. This report was referred to the Business Committee.

The next order of business was the report of

the Board of Trustees. It consisted of the report of the Treasurer, as to the entire business of the year 1901, showing an income from all sources to be \$149,985.66, with a net gain over all expenses of \$26,018.11.

A Code of Medical Ethics was submitted, and on motion referred to a committee.

Second session convened Wednesday, June 11, at 2:15 p. m.

Dr. Foshay, of Cleveland, then read the following resolution, which was adopted: "*Resolved*, That State Associations or Societies, in counting members for a basis of delegate representatives in this House, shall count only members in good standing, who pay regular dues to the State Association, either directly or indirectly, through County Societies."

The committee reported against Voluntary National Examining Boards.

Dr. Bevan, of Chicago, presented the following: "*Resolved*, That the House of Delegates recommend the adoption by the County Medical Societies in affiliation with this body the following resolution: '*Resolved*, That any member of the County Medical Society proven guilty of division of fees, either the giving or the receiving of part of a fee, without the full knowledge of the patient, be held guilty of misconduct, for which he may be expelled from the County Medical Society.'" This resolution was seconded and carried.

Report accepted.

H. O. Walker, Detroit, and V. C. Vaughan, of Ann Arbor, were then elected to continue to act as the Michigan members of the House of Delegates of the American Medical Association until their successors are elected in regular form.

Action on the amendments to the Constitution and By-laws, as presented in the program of the meeting, were indefinitely postponed.

Nominations for President—A. E. Bulson, Jackson; J. C. Willson, Flint.

Nomination for Secretary—A. P. Biddle, Detroit.

Friday, June 27, 11 a. m.

Report of the Committee on Admissions: G. W. Lowry, Chairman.

Names included in minutes of the report of the Secretary.

Report accepted.

Report of the Committee on Necrology: W. F. Breakey, Ann Arbor. See Journal, Vol. 1, No. 3, November, 1902.

Special Committee to petition the Legislature with reference to an improved plan of registration of births and deaths, continued.

Report of Committee on Legislation: B. D. Harison, Chairman. See Journal, Vol. 1, No. 2, October, 1902.

Report accepted.

Report of Committee on National Legislation: Emil Amberg. See Journal, Vol. 1, No. 2, October, 1902.

Report accepted and adopted.

Report of Special Committee to prepare a pathological exhibit for the meeting of 1902: P. M. Hickey, Chairman.

Report accepted and adopted, and \$100 voted to defray the expenses of next year.

Committee to petition the Legislature for an appropriation for the establishment of a properly equipped Sanitarium for the treatment of the early stages of tuberculosis, continued.

Report of the Committee on Finance: M. W. Gray, Pontiac, Chairman.

Report accepted. Accounts of Treasurer found to be correct.

Customary honorarium of \$300 to the Secretary and \$150 to the Treasurer allowed.

Report of Committee on President's Address: "Your committee, to which was referred the suggestions of the President's address, begs leave to report as follows:

His suggestions relate to two distinct objects, viz.: First, an increase in the practical value of the Michigan State Medical Society; second, improved methods for placing this within the reach of each member of the profession.

The committee recommends the adoption of the following five preambles and resolutions; the first three make the Society more valuable, while the first and last two aim to bring it in close touch with the entire profession:

THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY.

WHEREAS, It is believed that the publication of the transactions of the Michigan State Medical Society, as a monthly journal, instead of yearly, would advance the interests of the profession;

Resolved, That the President be instructed to appoint two members, who with the Secretary shall be the Publication Committee, of which the Secretary shall be chairman.

HONORARY MEMBERS.

WHEREAS, One by one our members become incapacitated for active service;

WHEREAS, It is desirable to retain within our ranks, till death, all who have rendered the Mich-

igan State Medical Society either long or unusually distinguished service;

Resolved, That the Committee on Reorganization be instructed to provide for a roll of Honorary Members, to present a method for their selection, and to define the eligibility of members to this list.

RECIPROCITY IN MEMBERSHIP OF STATE MEDICAL SOCIETIES.

WHEREAS, The value of membership in the State Society would be increased if a system of reciprocity in membership were arranged with other States having similar requirements as Michigan;

Resolved, That the Secretary, President and Committee on Reorganization be directed to investigate and ascertain whether other States would entertain such a reciprocity;

Resolved, That if this committee found such States willing, they be empowered to make final arrangements, announce the same to our members, and provide for its incorporation into our organic laws.

COUNCILORS.

WHEREAS, It is necessary to actively promote the organization, stimulate the development and nurture the life of local medical societies;

Resolved, That the Committee on Reorganization be hereby directed to select a Councilor from each congressional district, with especial reference to his fitness for promoting local organizations within his district;

Resolved, That the expenses of each Councilor, to the limit of \$25 yearly, be paid by the Treasurer, on presentation of properly certified vouchers;

Resolved, That these Councilors be appointed for one year after this meeting, or till their successors are elected. Their duties shall be the promotion in their districts of new local Societies, the reviving of old ones, the fostering of all, and the adjustment of misunderstandings, of the individual or of the Society;

Resolved, That the Councilors organize immediately after appointment, arrange for their work, hold at least one yearly meeting in connection with the Vice-Presidents, and submit to this Society their annual report.

Resolved, That the Councilors be authorized, at their discretion, to recognize existing Societies as County Societies, and also to recognize those that shall be formed, and to grant charters to the same.

VICE-PRESIDENTS—NEW DUTIES.

WHEREAS, It is desirable to utilize every means for the healthful formation and growth of local Societies;

Resolved, That the Nominating Committee be directed to select the Vice-Presidents for their

fitness in working with the Councilors, in the interests of the local Societies;

Resolved, That in so far as possible they select one Vice-President for each three congressional districts, so that he may easily co-operate with the Councilors of those districts.

Resolved, That immediately after appointment, each Vice-President be directed to place himself in relation to his three Councilors, and assist in planning for the early and effective development of the local Societies, within their three congressional districts;

Resolved, That the Vice-Presidents meet with the Councilors and aid in their efforts to bring every reputable doctor within the membership of the Michigan State Medical Society.

(Signed)

E. L. SHURLY,
VICTOR C. VAUGHAN,
J. B. GRISWOLD,
A. W. ALVORD,
P. D. PATTERSON,

Committee.

Port Huron, Mich., July 27, 1902."

Unanimously adopted.

Report of the Judicial Council:

"Concerning charges made against W. D. Wilson and W. C. Cronin, of Mt. Clemens, members of this Society, for unprofessional conduct, the Judicial Council finds as follows: On account of the absence of Dr. W. D. Wilson through illness, the Council recommends that his case be continued. It finds, however, that Dr. Cronin has been guilty of grossly unprofessional conduct, and recommends his expulsion from the Society for such unprofessional conduct.

B. D. HARISON.
A. W. ALVORD,
H. B. LANDON."

Report accepted and adopted.

On motion of V. C. Vaughan, of Ann Arbor, the Committee on Reorganization was empowered further to revise the Constitution and By-Laws as in its judgment seemed best, especially in regard to the subject of fees, the amendments to have full force and to go immediately into effect.

See Journal, Vol. 1, No. 2, October, 1902.

Report of the Committee on Nominations: Samuel Bell, Chairman:

President—A. E. Bulson, Jackson.

1st Vice-President—J. C. Willson, Flint.

2nd Vice-President—A. W. Crane, Kalamazoo.

3rd Vice-President—W. K. West, Calumet.

4th Vice-President—H. B. Garner, Traverse City.

Secretary—A. P. Biddle, Detroit.
 Treasurer—Chas. E. Hooker, Grand Rapids.
 Place of Meeting—Detroit, June 11 and 12, 1903.

In accordance with the resolution from the Committee on President's Address, adopted by the Society, the chairman of the Committee on Reorganization, A. E. Bulson, reported the membership of the Council as follows:

First District—Leartus Connor.
 Second District—N. H. Williams, Jackson.
 Third District—W. H. Haughey, Battle Creek.
 Fourth District—G. W. Lowry, Hastings.
 Fifth District—J. B. Winery, Grand Rapids.
 Sixth District—C. B. Burr, Flint.
 Seventh District—O. Stewart, Port Huron.
 Eighth District—S. I. Small, Saginaw.
 Ninth District—B. H. McMullen, Cadillac.
 Tenth District—H. B. Landon, Bay City.
 Eleventh District—W. T. Dodge, Big Rapids.
 Twelfth District—Theo. A. Felch, Ishpeming.
 The report was unanimously adopted.
 Adjournment.

A. P. BIDDLE, *Secretary*.

SECRETARY'S NOTES, NOV. 20, 1902.

On July 10th, the Committee on Reorganization met at the Russell House, Detroit, with the Council, and made the required changes in the Constitution and By-Laws, which, according to the authority given it, have all the force of the original.

In this will be found incorporated the several resolutions recommended by E. L. Shurly's committee.

Thus, the Council is made the Publication Committee, the Finance Committee, as well as having the duties of Judicial Council, and those of the organization and development of the County Societies. It further elects the Secretary and Treasurer. The present Council holds office till the House of Delegates elects its successor.

Provision is made for securing a reciprocity of membership with other State Societies having requirements equal to Michigan; and for keeping members till their death by a system of Honorary Membership, in close touch with the operations of the Society.

The Vice-Presidents and President have additional duties given them, in aiding the Council in its work of organizing and developing branch Societies.

Full details are given for starting and conducting the monthly journal of the Society.

In the matter of fees, the annual dues are reduced to two dollars per year, payable to the Treasurer of the Branch Societies.

Leartus Connor, Detroit, was elected Chairman, and W. H. Haughey, Battle Creek, Secretary of the Council.

To date the following County Medical Societies have been chartered and made Branches of the State Society:

1. Aug. 8—Calhoun.
2. Aug. 15—Wayne.
3. Aug. 28—Hillsdale.
4. Sept. 16—Bay.
5. Sept. 19—Oakland.
6. Sept. 20—Livingston.
7. Sept. 20—Houghton.
8. Sept. 20—Mecosta.
9. Sept. 23—Branch.
10. Sept. 25—Eaton.
11. Sept. 30—O. M. C. O. R. O.—Counties of Otsego, Montmorency, Crawford, Oscoda, Roscommon and Ogemaw.
12. Sept. 30—Wexford.
13. Oct. 6—Montcalm.
14. Oct. 15—Saginaw.
15. Oct. 17—Monroe.
16. Oct. 17—Ionia.
17. Oct. 23—Mason.
18. Oct. 23—Grand Traverse.
19. Oct. 29—Manistee.
20. Nov. 2—Sanilac.
21. Nov. 7—Allegan.
22. Nov. 8—Van Buren.
23. Nov. 10—Lapeer.
24. Nov. 15—Genesee.
25. Nov. 17—Griatiot.
26. Nov. 17—Barry.
27. Nov. 28—Jackson.

A. P. BIDDLE, *Secretary*.

There will be a meeting of the Council at the Russell House, Detroit, January 6, 1903, to consider the many important questions which have arisen in connection with the work of organization.

Books Received.

The Physicians' Visiting List for 1903. P. Blakiston's Son & Co.

Transactions of the Colorado State Medical Society for 1902.

Gynecology, Obstetrics, Menopause, by A. H. P. Leuf, M. D. The Medical Council, Philadelphia, Pa.

The Physician's Pocket Account Book. The Medical Council, Philadelphia, Pa.

The next Annual Meeting of the Michigan State Medical Society will
be held in Detroit, June 11th and 12th, 1903

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The Official Organ of the State and County Societies of Michigan

Volume II
Number 1

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Preliminary Announcement of The Next Annual Meeting of the State Society

The attention of the members of the Michigan State Medical Society is respectfully invited to the forthcoming Annual Meeting of the Society to be held at Detroit, Thursday and Friday, June 11th and 12th, 1903.

Voluntary papers are hereby solicited, and each member who contributes is requested to send the title of his paper to the Secretary of the Section before which he desires to present it. In the interest of the work of the Society the General Secretary, however, reserves the right to determine the Section to which the paper belongs. Each paper is limited to fifteen minutes and the title is to be sent as early as possible, **not later than April 1st**, to the respective Secretary of Section.

DR. WILLIS S. ANDERSON,

912 Chamber of Commerce, Detroit, *Secretary of Section on General Medicine.*

DR. W. A. SPITZLEY,

270 Woodward Ave., Detroit, *Secretary of Section on Surgery, Ophthalmology and Otology.*

DR. CASPER K. LA HUIS,

Kalamazoo, *Secretary of Section on Obstetrics and Gynecology.*

In view of the great increase of membership of the State Society and the probability that enough papers will be contributed, the Committee on Scientific Work has selected no special subjects for discussion in the Sections.

It is requested that an abstract of each paper, *not to exceed one hundred words*, be furnished the Secretary of the respective Sections by **May 1st**.

No paper, the title to which has not been sent in by **April 1st**, can be presented at the Annual Meeting in June.

Attention is also invited to the Pathological Exhibit. Members desiring to contribute to the same will please correspond with Dr. Thaddeus Walker, Chairman of the Committee, Detroit Clinical Laboratory, 33 Mullett Street, Detroit.

A. P. BIDDLE, Secretary.

DETROIT, MICH, January 1, 1903.

At the Annual Meeting of the Society, Port Huron, June 26th, 1902, before the Section on Obstetrics and Gynecology, the following symposium was delivered:

ABORTION, MISCARRIAGE AND PREMATURE LABOR.

- (a) Etiology and Prophylaxis,
- (b) Treatment,
- (c) Complications,
- (d) Moral and Legal Aspect,

J. G. LYND, Ann Arbor.
H. WELLINGTON YATES, Detroit.
A. H. ROCKWELL, Kalamazoo.
F. J. WELSH, LL. D., Kalamazoo.

Original Articles

ETIOLOGY AND PROPHYLAXIS OF ABORTION AND PREMA- TURE LABOR.

J. G. LYND.
Ann Arbor.

I have prepared a short paper which, while it contains nothing new or startling, and very little if anything original, will, I trust, act as somewhat of a review, and freshen your memories on some of the points involved. By abortion I shall mean the expulsion of the products of conception before the child has reached a viable age; say six or six and a half months. Premature labor indicates a premature termination of pregnancy after the child has reached a viable age; i. e., after the sixth month, and before full term. The term miscarriage applied by some to indicate the expulsion of the ovum between the fourth and sixth months I prefer to discard as immaterial and unnecessary. Any division of the subject so far as its discussion from my standpoint is scarcely necessary, however, as the causes and prophylaxis I shall mention may apply equally to any stage. The causes are best studied under two heads, viz., Predisposing and Exciting.

PREDISPOSING. These may with advantage be again divided into: 1st, Paternal; 2nd, Maternal, and 3rd, Foetal.

1st, *Paternal*. It is now well proven that a father suffering from syphilis, and possibly tuberculosis, may transmit the disease to the ovum and foetus even though the mother remain free from it. These may cause the death of the foetus or a diseased condition of the membranes, or placenta, which in turn act as exciting causes.

Alcoholism, lead poisoning, advanced age, excessive venery, or debility from any cause are also mentioned as predisposing causes.

2nd, *Maternal*, (a) General. (b) Local.

(a) *General*. Among these may be included all those mentioned above and also all the acute infectious diseases which cause high temperature or saturate the system with toxins; as, e. g., typhoid or typhus fever, measles, scarlet fever, small-pox, yellow fever, pneumonia, malaria and influenza. Possibly some of these should be placed among the exciting causes, but the chances are the real exciting cause is the death of the foetus or some pathological condition of the membranes produced by the disease, although it is quite possible that in some instances the poison in the blood sets up uterine contractions by its direct action on the nerves or muscle fibres. This may be true in tetanus, cholemia, eclampsia, chorea or other convulsive disturbances. All diseases or conditions producing marked debility or exhaustion as, e. g.,

syphilis, tuberculosis, organic heart disease, indigestion, overwork, insufficient or unsuitable food, or other diseases or conditions which lower the vitality of the pregnant woman, favor the premature expulsion of the ovum.

A specially sensitive nervous system makes its possessor more susceptible to many of the exciting causes.

(b) *Local.* Congestive or inflammatory conditions in or about the pelvic organs, such as endometritis, metritis, salpingitis, ovaritis, pelvic peritonitis, cellulitis, or appendicitis, or adhesions resulting therefrom, are likely to interfere with normal uterine development and cause changes in the membranes, placenta, or foetus, which become exciting causes.

Deformities or displacements of the uterus, especially ventro-displacements, if bound down by adhesions sufficiently to prevent the normal upward development, must result in impaction or abortion. Lacerations or ulcerated conditions of the cervix are likely to lead to pathological changes in the endometrium or ovum, which become exciting causes.

Tumors, especially fibroid tumors, in the uterine walls, may be both predisposing and exciting causes, predisposing by causing changes in the membranes or exciting by causing hemorrhage, pressure or uterine contractions.

Exciting Causes. The death of the foetus or some diseased condition of the membranes are the most frequent exciting causes. These may result from syphilis, tuberculosis, malaria, pneumonia, smallpox or any of the acute infectious diseases causing high temperature or saturating the system with toxins.

Traumatisms, such as blows, kicks, falls, severe vomiting or straining, coughing,

hysteria, epilepsy, chorea, pressure on the cord from being wound around extremities, body, or neck of child, or from knots becoming drawn up tight; hemorrhage beneath the membranes or placenta or into the ovum. Of 190 cases of chorea collected by Barnes, Ramburg and Spiegelberg, only 84 were delivered of mature infants. Faulty insertion of the placenta, especially placenta previa, accidental rupture of the membranes, criminal interference on the part of the patient herself or others with the direct intention of emptying the uterus. Operations which sacrifice the life of the child when not absolutely necessary to save the mother cannot be too strongly condemned, and in fact should be considered in the same light as any criminal abortion.

Drugs, such as ergot, quinine, cotton root, tansy, pennyroyal, cantharides, rue, savin, etc., no doubt in cases having conditions predisposing to abortion, and possible in some others, may set up uterine contractions; but I believe are unlikely to do so in the great majority of healthy women, and frequently prove futile where strong predisposing causes exist.

Douches and sitz baths may no doubt cause congestion of the pelvic organs and if persisted in will in some cases cause a premature emptying of the uterus. In inflammatory conditions or adhesions complicating pregnancy I am in the habit of using the hot douche and tampon, however, as an antiphlogistic and prophylactic treatment, and have never yet seen an abortion result from it.

Severe emotional disturbance or shock is a frequent exciting cause in women of nervous temperament or when some of the local predisposing causes are present. Undue exertion, such as heavy lifting, high reaching, unusually heavy or an unusual

amount of work, may be sufficient exciting cause.

Habitual abortion is a term applied where repeated abortions occur and no adequate reason can be found. I find nephritis mentioned in the books as a cause of abortion and premature labor. I prefer to consider it as a serious complication frequently calling for the induction of abortion or labor; and unless it be discovered but a short time before the child has reached a viable age, or readily yields to treatment, would not advise any measures being taken with the view of prolonging the pregnancy.

Prophylaxis. Whatever treatment is instituted for the purpose of preventing abortion or premature delivery should depend upon as thorough an understanding of the causes at work in the individual case as it is possible to obtain. A thorough inquiry into the history of both parents as well as a careful examination of the prospective mother, is essential, and treatment advised according to indications. If there be a history or symptoms of syphilis a liberal exhibition of the iodides is indicated. If the case be one coming under the head of habitual abortion I prescribe the iodides and also viburnum prunifolium, frequently combining it with hydrastis canadensis. The combination of these drugs as put up by Parke, Davis & Co. under the head of Liquor Sedans is usually well known by the patient and has given me satisfactory results.

When a pregnant woman is suffering from some of the acute infectious diseases the probabilities of abortion should be remembered even though little outside the ordinary treatment of the diseases can be done to prevent it.

The accumulation of toxins in the system should be prevented as far as pos-

sible and high temperature controlled by cold sponging or ice-bags, and medication as indicated. The cold bath, if used, should be used with great caution, as the shock is likely to set up uterine contractions and bring on labor.

Tumors in women likely to become pregnant should be removed and the organs left in as healthy condition as possible. In pregnant women a serious operation should be done only to save the life of mother or child, and where one or the other needs to be sacrificed that both may not perish, the mother, unless it be in some exceedingly rare instances, should receive first consideration. Experience has shown, however, that even serious operations on the pelvic organs, abdominal or vaginal, when performed before the fourth month, are comparatively safe to both mother and child, and a timely operation for fibroid or ovarian tumor, pus tube, or appendicitis may save the life of one or both when otherwise they would be lost. In the paper I read before this section last year, entitled "Neoplasms Complicating Pregnancy and Labor," I reported some such cases which had come under my care.

Inflammatory conditions should be as far as possible removed before pregnancy occurs. When existing with pregnancy and threatening the life of mother or child, often both may be saved by thorough antiphlogistic and expectant treatment. I do not hesitate to use the hot douche and tampon when I consider them indicated and have never yet had them cause an abortion.

Displacements when uncomplicated are easily managed, the only ones likely to cause serious trouble being retroversion or retroflexion and complete prolapsus. The latter can always be kept up by keep-

ing the patient in the prone position with hips elevated, if not by pessary or bandage, until the uterus is too large to descend, which would be from the fourth to the fifth month, when it will go on to term without further trouble.

Retro-displacements when uncomplicated can be kept up by tampon or pessary until sufficient development has taken place to prevent their recurrence. When complicated by inflammatory conditions or adhesions the antiphlogistic treatment should be carried out, gradually replacing the organ, with the patient in the genu-pectoral position. This should not in the majority of cases be completed at one time, as too great a stretching of the parts is painful and likely to prove disastrous. Many cases require weeks of treatment. Failing in this, an abdominal operation to break up adhesions and replace the organs is justifiable and indicated. When displacements, especially those complicated by inflammatory conditions or adhesions, are known to exist in patients likely to become pregnant, they should be corrected before that important event occurs, for even though a great many cases may be carried to term by proper care and treatment, it is well known a considerable number will miscarry in spite of every precaution. Diseased conditions of the endometrium should be corrected and lacerations of the cervix repaired, care being taken to remove all the tissue too thoroughly diseased to recover and restore the cervix as nearly to its original condition as possible.

The importance of this subject and the necessity of giving it greater consideration than it has received in the past is best shown by the frequency of its occurrence and the number of lives thus sacrificed. It is claimed by those who

have gathered statistics on this subject that one out of every five pregnancies end in abortion. Twenty out of every hundred would be considered an alarming death rate. I believe that by the proper care of patients preceding and during pregnancy, a large portion of the lives thus sacrificed might be saved.

THE TREATMENT OF ABORTION, IMMATURE AND PREMA- TURE LABOR.

H. WELLINGTON YATES,
Detroit.

The subjects of abortion and miscarriage are of paramount interest to the general practitioner, especially so to the physician in the larger towns and cities where they more frequently occur. Of interest, because there are few conditions met with where the physician can do more good or harm to his patient in accordance with the plan he adopts for his treatment than in this one.

There are times in these threatened cases when waiting for a few hours will save the fetus and the patient will go on to full term,—other times when the delay of a few hours on our part will be but a sacrifice of the woman's life. Therefore there must be such diagnostic acumen shown in each of these cases as will be well borne out by the result of treatment, which sometimes calls for a few hours of waiting, sometimes a sharp and decisive action.

The fact that a goodly number of our cases are after a criminal interference, and that, of those who die, the large percentage are from this class, it becomes our duty, in all cases of question, to fortify ourselves against incrimination by de-

manding a written statement in the presence of a witness, exonerating us from all blame in case of fatality. I say this because in many of these cases a veritable septic process has already had its inception, the septic process going beyond the confines of the uterus to lymphatic channels in the adnexa; these are the fatal cases, no matter what surgical interference is made, and those which prove fatal may cause much uneasiness unless we have obtained such a statement as would exonerate us.

Abortion signifies the expulsion of the products of conception at a time when the placenta is not yet fully formed, and hence when it cannot be expelled or expressed in its entirety.

Miscarriage or Immature Labor occurs after the formation of the placenta and until the fetus is viable; the approximate time would be from the fourth to the seventh month.

Premature Labor is the term applied to the delivery of the fetus from the time of its viability to within a short time before the normal termination of pregnancy.

Since the time element as to viability is often erroneous, these rules are not wholly to be relied upon, but this manner of classification has fallen into such general use that it is difficult to get away from it.

The treatment which would usually be demanded in ordinary cases of midwifery would in the general run be suitable to those of premature labor. We will, therefore, confine our consideration to the treatment of abortion and immature labor. And since the greater proportion of these occurrences happen before the fourth month, and therefore before the formation of the placenta, the center of interest is in the treatment of these cases in which the products of conception can-

not be expressed by Crede's method and would, according to the general rule of time, be before the sixteenth week.

Abortion and immature labor are either complete or incomplete in accordance to whether the whole or a part of the products of conception are thrown off.

When we are confronted with a recent and inevitable abortion, what are the symptoms, and what is our duty in relation to them?

First. Hemorrhage may be profuse and alarming.

This will demand immediate attention. We should ascertain if any portions have come away, and how much, if any. Perhaps there is no measure which is more suitable for the prevention of hemorrhage than the vaginal tampon, and when it is thoroughly placed and allowed to remain for twenty-four hours, not unfrequently when it is removed all the products of conception will be found in the dilated cervical canal, or possibly down in the vagina itself.

Now just at this juncture comes one of the most important measures of treatment. Has all the decidua been thrown off, and how are we to know? If a considerable proportion remains, flowing will continue either constantly or at intervals, the cervix uteri will be patulous and the uterus itself have a boggy feel. If there is question concerning it, the finger should be introduced in the uterine cavity to explore (*rubber gloves or cot*). If the pregnancy is of so short a duration that the cervix will not admit the finger, the circumstances may demand a mechanical dilatation with curettage. If the cervix is such that dilatation is necessary, I am inclined to believe that it is best done by a Goodale dilator. If it is done with the

finger, it will become so numb through pressure that it may convey a wrong impression. It goes without argument that no scientific man will use the sponge tent for purposes of dilatation. What we want here is absolutism. If any of the products of conception remain, now is the time to know it. Their removal is not done alone for the immediate preservation of life, but for the prevention of a long period of invalidism which might occur if but a small portion of putrid decidua remain, for early in pregnancy the decidua is the most important part of abortion, the membranes less, the fetus not at all, but with the involution of the vera and reflexæ, and the formation of placenta, the latter assumes the most importance and retains it until the latter half of pregnancy.

Duhrssen, of Berlin, says that the retention of decidua vera is not the exception but the rule. If the curette is used, the larger size the better. Personally I prefer the douche curette. Where it is possible the finger should explore the cavity before the operation is completed. If no sepsis be present, packing the uterus with sterile gauze is the proper procedure,—not as a prophylaxis to a recurrence of hemorrhage, for if all decidua or placenta is removed this need not be feared,—but for purposes of involution. It is an accepted fact that many of the large, sub-involuted uteri seen are consequent upon abortion, and therefore any measure we can use at the time, or during the lying-in period of abortion, to assist in involution should receive our attention. Accordingly, any gentle irritant locally applied might be useful.

The success of the treatment of these aseptic cases is entirely in our keeping. Every general practitioner should be fully

competent—and I believe the majority are sufficiently competent—to do this work in an aseptic manner. Some gynecologists of late have said that curettements should not be made by the general practitioner. I believe this to be the height of arrogance, and maintain that any general practitioner can do this work successfully. It is the general practitioner to whom these patients come, and he, in consequence, has more opportunity of doing them than anyone else.

I cannot refrain here from calling attention to the proper method of preparation for this work. Too commonly the patient receives nothing but a hasty bichloride douche. A missing link in the chain of asepsis here may mean our patient's life. The hair about the vulva should be shaved, the vulva, thighs and vagina should be washed and re-washed with good soap and water; then if we have any antiseptic solution it may do some good. The same care in asepsis and antisepsis should be practiced that are necessary for a major operation. Making this our every-day practice will avert infection in cases which have not already been rendered septic. If the operation should be followed by a rise of temperature or other manifestations of sepsis, we must assume that our work somewhere has been faulty. If the case has been treated properly it will remain clean. In cases where we find pronounced sepsis, we should at least suspect criminal interference. From this class our fatalities come, and these tax our ingenuity from the outset. Here, activity is our watchword; a local infection may become a general one, and it is our duty to thwart it, if possible.

If there is any diversity of opinion as to the propriety of the curette, be it the

finger or a metallic one—in the class of cases first mentioned, clearly here there can be none—there is but one thing to do, empty the uterine cavity of its contents at the earliest moment.

The patient should be placed on a table and in the lithotomy position. An anaesthetic having been given, a Sims speculum is introduced, the uterine cervix grasped by a vusellum forcep, and the cervix, if not sufficiently dilated, should be divulsed either by a Goodale or the graduated sounds, and after a digital exploration the curette should be used. It is always quite impossible to tell how much softening of the uterine body has gone on as a result of the septic process, and therefore I believe it is the better plan to use the largest curette possible, thus rendering less liability to puncturing the wall. Indeed, this mistake is a blunder which a careful man will not make. After all material has been curetted away, the cavity should be washed out with a solution of lysol, carbolic acid, iodine, normal salt or formalin and the uterus packed with long strips of gauze for the purpose of wiping it out, and then withdrawn. This may be repeated several times. No packing should be allowed to remain in either the uterus or vagina of a woman suffering from sepsis. In fact, opinions differ as to the advisability of the use even of a small strip of gauze left as a capillary drain. If great anemia is present in a septic case, the patient should have a saline transfusion under the breast—not in it—before the curettement is done, and small doses of ergot should be given at intervals afterwards. Indeed, this is about the only field for the use of ergot in abortion, together with the assistance it would lend in involution. Rectal enemata of normal

salt solution should be given at intervals in the desperate cases, and if the infection is already general, or becomes so, the use of antistreptococcic serum may be worthy of trial.

Where the septic process continues in the uterus for a time, intra-uterine douches are sometimes serviceable. Jewett, of New York, believes the vaginal douche unnecessary, useless and injurious both in normal labor and abortion, as the experiments of Kronig, confirmed by Doderlein, Menger, Williams and others, have shown.

You can't sterilize the vagina alone by a douche any more than you can render your hands clean by a hasty dip in bichloride solution. The acid secretion of the vagina is germicidal and through the use of the vaginal douche we wash away an antiseptic secretion and leave the germ itself unharmed.

From a consideration of the subject under discussion, permit me to submit the following conclusions:

- 1st. Render everything aseptic.
- 2nd. Arrest hemorrhage by packing or emptying.
- 3rd. In inevitable abortion every portion of the products of conception should be removed as soon as possible.
- 4th. That intelligent curettage is invariably indicated whenever a vestige of placental decidua remains or any suspicion of infection is in evidence.
- 5th. That the general practitioner is fully competent to do this operation.
- 6th. A statement from the patient, relieving the operator of possible incrimination, should be secured.
- 7th. The curette, instead of being used too much, is used too little.

COMPLICATIONS OF ABORTION, MISCARRIAGE AND PREMA- TURE LABOR.

A. H. ROCKWELL,
Kalamazoo.

The complications and sequela of abortion, miscarriage and premature labor may be considered under two heads, hemorrhage and sepsis. Hemorrhage is liable to be a complication so long as a detached, or partially detached, placenta, or any part of it, remains in the uterine cavity to interfere with its contraction and closure of the blood vessels.

The importance of this complication depends upon the amount of blood lost, and the ability of the patient to lose blood. An amount that would be insignificant in one case might be very serious in another.

The conditions favorable to hemorrhage are also favorable for the development of sepsis. There may be an infection of the retained placental tissue and a septic endometritis, and by contiguity, salpingitis and peritonitis, with abscess of the tubes and ovaries; or there may be streptococcus infection through the lymph channels. Some authors have claimed that the ovaries have distinct lymph channels communicating directly with the cervix and cervical canal. Whether this be true or not, the fact remains that ovarian abscess frequently follows abortion, and is usually due to unclean manipulation of the cervical canal, with streptococcus infection. When this is the case the ovarian abscess, with involvement of the adjoining peritoneum, may be the only recognizable evidence of extra-uterine disease, the fallopian tubes having apparently never been involved.

In a majority of cases, however, the involvement of the ovary is a part of a complex process which involves the tubes and uterus, having extended by contiguity from a septic endometritis.

Besides the conditions already indicated, there may be chronic endometritis with subinvolution, displacements of the uterus and ovaries, and the long train of nervous symptoms too familiar to require mention.

The frequent recurrence of abortion, or miscarriage, in some cases is due, no doubt, to some one, or a combination of the conditions just mentioned. The management of the complications is the intelligent management of abortion, miscarriage and premature labor. The indication in hemorrhage is to clear out the uterine cavity. Aseptic conditions should be maintained as nearly as possible where infection has not already occurred—and where it has occurred and effort should be made to establish a condition as nearly aseptic as possible. Dilate, if necessary, and by means of the curette with irrigation thoroughly clear out the uterine cavity.

There may occasionally be an exceptional case of severe hemorrhage under certain conditions when it may be good practice to tampon for a short time while preparing to do the more rational procedure. The tampon should be restricted to cases of abortion, and to miscarriage, or premature labor, before delivery of the fetus. No one should attempt to control hemorrhage from a large uterine cavity that is nearly empty, by the use of tampons. The tampon has the disadvantage that it prolongs the period of danger from septic infection.

The indications for the management of septic infection are to carefully but

thoroughly clear out the uterine cavity with the curette and free irrigation. If done early this may be all that is necessary to effect a cure. In some exceptional cases it may be necessary to repeat the irrigation once, twice, or several times, and in rare cases the curettement also may have to be repeated.

The management of the suppurative conditions following infection I shall merely indicate. Large pelvic abscesses should be evacuated by incision and drainage through the posterior vaginal fornix. In acute abscesses of the ovary, where there is apparently no involvement beyond the adjoining peritoneum, this operation is practicable in most cases. It is unnecessary to remove the ovary; simply incise it and drain with gauze. Nearly all cases thus treated will make a good recovery.

Cases of septic endometritis, followed by pyosalpinx and ovarian abscess, should be treated by abdominal section, preceded by incision and drainage through the vagina, where large collections of pus are found in the pelvis.

By evacuating these large collections, where both tube and ovary are merged into a large abscess, should a radical operation be demanded later on, it can be done with greater safety because of the diminished bulk of abscess mass and lessened amount of pus.

MORAL AND LEGAL ASPECT OF ABORTION, MISCARRIAGE AND PREMATURE LABOR

F. J. WELSH,
Kalamazoo.

There is no individual in a community who may exert a stronger influence for the accomplishment of good, or the production of evil, than the physician. He

is to a degree the guardian of morals, as well as the preservative of health. In the exercise of the obligations of his high calling is demanded integrity of character, honesty of purpose and a superior and conscientious intellect. Upon him rest grave responsibilities; to him are referred, for solution, significant moral principles, as well as serious scientific problems. He is not only a scientist, but at times partakes of the qualities of a theologian and philosopher. Of the diverse and varied questions he is called upon to decide in the course of his professional career, none cause him more worry, anxiety and even pain, than the melancholy conditions that surround a case of abortion. It is of this, from a moral standpoint, I would briefly write.

Criminal abortion is so repugnant to the true and conscientious physician, so detestable to the spirit of morality and Christianity, so abominable to the lofty and nobler instincts which control our moral being, that it has no justification whatsoever in law or morals. It destroys the honor of the profession, violates the sanctity of the home and relegates Christianity to the days of barbarism and infidelity. Notwithstanding its hideous loathsomeness, sad indeed it is to contemplate that we have individuals in this state, yea, even perhaps in this society, who prostitute their honor, sacrifice their manhood, and who hesitate not to insult God Himself, by engaging in this damnable work, and yet, cowardly assassins that they are, their hearts calloused by their crime, they have the hardihood to raise their hands, dripping with the blood of the innocents, and proclaim to the public, the poor deluded public: We are physicians! We are members in good standing in our medical societies!

Members of this society, we know these facts to be true; we realize it, we feel it; it insults, it humiliates; we condemn it, we war against it, and after all we are in a measure helpless. Religion prohibits it, public sentiment opposes it, the law punishes it, still this atrocious crime goes on sapping the life of society and disgracing our civilization, defying God's command, "Thou shalt not kill!" and so it will continue until the moral status of a physician is elevated so as to enable him to form a true conception of his exalted calling, that he will obey the voice of God, speaking to him through the eternal, the ethical law, that by the majesty of his own conscience he will rise superior to all mercenary gain, and use the beneficent resources of his art for the betterment of mankind and a stricter compliance with the laws of the moral code. This brings us to the question of legal abortion, or abortion permitted by law under certain qualifications, and for the specific purpose of protecting and saving the mother's life. This at once suggests the question, are there any cases in which a physician is justified in bringing about an abortion or prescribing treatment from which he knows an abortion is likely to result? Our conduct should be guided in this matter in accordance with these principles: 1st. That we do not wish evil itself, but make all reasonable effort to avoid it. 2nd. That the immediate result we wish to produce is good in itself. 3rd. That the good effect intended is at least as important as the evil effect permitted. 4th. That the evil is not made a means, used to obtain the good effect.

Coppens applies these principles as follows:

1st. If the medicine is necessary to save the mother's life and it is not certain

to bring an abortion, though it is likely to do so, then the good effect is greater than the bad effect. You may therefore give the medicine to save the mother and permit the probable death of the child.

2nd. If the medicine is not necessary to save the mother's life, though very useful for the sake of such an advantage, you cannot justly expose the child's life to serious danger.

3rd. If the danger the child is exposed to is not serious, and the remedy, though not necessary, is expected to be very useful to the mother, the remedy may be given.

4th. If the drug is necessary to save the mother, and is as dangerous to the child as it is beneficial to her, can you give the remedy? No, you may not injure the child directly to benefit the mother indirectly; that would be using a bad means to obtain a good end.

This last principle applies to the case of a pregnant mother who has unceasing attacks of vomiting, so much so that if not relieved she will die. The attending physician and consultant agree that there is no way of relieving the vomiting except by emptying the uterus of its living burden. Abortion then is the means used to stop the vomiting. Can you do it? No, because the abortion directly and surely kills the child, as you would a man by driving a dagger through his heart. You can never do evil that good may come.

The only case that it would be permissible to destroy the child's life to save the mother's is when the child is an unjust aggressor, but the child can never be an unjust aggressor as against the mother. Who put it there? God, through the agency of its parents. The child is passive from conception to birth; at most,

therefore, it can be but an innocent aggressor. I will here cite an authority, quoted by Coppens in his work on "Moral Principles and Medical Practice," giving the ethical and medical legal view of an analogous case to that of a child helpless in its mother's womb. It is that of the British yacht *Mignonette*. On July 5th, 1884, the prisoners Dudley and Stephens, with one Brooks and the deceased, who was an English boy 17 years old, part of the crew of the yacht, were shipwrecked 1,600 miles from the Cape of Good Hope, and had to take to an open boat. They had no food or water and lived for 20 days on two pounds of turnips and a small turtle they had caught. On the 18th day, having been without food for 17 days, and without water for two days, the prisoners suggested that someone be sacrificed to save the rest. Brooks dissented and the boy to whom they referred was not consulted. On that day the prisoners spoke of having families, and of their lives being more valuable than that of the boy. The boy was lying in the bottom of the boat, weak and unable to make resistance, nor did he agree to be killed to save the others. Dudley, with the assent of Stephens, went to the boy and, telling him that his time had come, put a knife into his throat and killed him. They fed upon his flesh for four days. On the 4th day the boat was picked up by a passing vessel; the sailors were rescued still alive. The prisoners were carried to the port of Falmouth and committed for trial, the charge being murder. Their excuse was that, if they had not killed the boy and fed upon his flesh, there being no sail in sight, they would have died of starvation before being rescued. They pleaded that there was no chance of saving their lives except by killing some one for the

others to eat. The prisoners were committed for murder and sentenced to death. The evidence in this case showed that the defenseless boy was not an unjust aggressor against their lives. Their only plea was that of expediency. Lord Hale, quoted by Coleridge in this case, has this to say of the exception created by necessity: "If a man be desperately assaulted and in peril of death and cannot otherwise escape, except by killing an innocent person then present, the act will not acquit him of the crime and punishment of murder, for he ought rather to die than kill the innocent." Lord Coleridge further says, in the case of two men on a plank at sea, which can only support one, that the right of one occupant to throw the other overboard to save his own life is considered as unjustifiable homicide. It is sometimes pleaded in justification of abortion that the mother's life is more valuable than the child's. Her social position, her duty to her family and husband, her age and accomplishments all combined to make her life more valuable; but who is to judge of the value of a life? Shakespeare tells us "Macduff was from his mother's womb untimely ripped." Admit the principle and you cannot destroy or kill an innocent aggressor except in self-defense. It at once prohibits the destruction of the fetus at any period of gestation. In many of the United States the law protects an unborn infant from its first stage of ascertainable existence; hence no matter what may be the period of gestation, an indictment lies for its wilful destruction. (Wharton *Stille*, 861 P.) That the law does guard its interests is shown by the fact that a child born at the extreme limit of gestation, after its father's death, is capable of taking by descent and being appointed executor.

Let me close the paper with an extract from a lecture on obstetrics delivered by Dr. Hodge of Philadelphia, to the students of the University of Pennsylvania:

"We blush while we record the fact, that in this country, in our cities and towns, in this city where literature, science, morality and Christianity are supposed to have so much influence; where all the domestic and social virtues are reported as being in full and delightful exercise; even here individuals, male and female, exist who are continually imbruing their hands and consciences in the blood of unborn infants; yea, even medical men are to be found who, for some trifling pecuniary recompense, will poison the fountains of life, or forcibly induce labor, to the certain destruction of the fetus and not infrequently of the parent.

"So low, gentlemen, is the moral sense of the community on this subject, so ignorant are the greater number of individuals, that even mothers, in many instances, shrink not from the commission of this crime, but will voluntarily destroy their own progeny, in violation of every natural sentiment and in opposition to the laws of God and man. Perhaps there are few individuals in extensive practice who have not had frequent applications made to them by fathers and mothers of unborn infants (respectable and polite in their general appearance and manners) to destroy the fruit of their illicit pleasure, under the vain hope of preserving their reputation by this unnatural and guilty sacrifice.

"Married women, also, from the fear of labor, from indisposition to have the care, the expense, or the trouble of children, or some other motive equally trifling and degrading, have solicited that the

embryo should be destroyed by their medical attendant. And when such individuals are informed of the nature of the transaction, there is an expression of real or pretended surprise that anyone should deem that act improper, much more guilty; nay, in spite even of the solemn warnings of the physician, they will resort to the debased and murderous charlatan, who, for a piece of silver, will annihilate the life of the fetus, and endanger even that of its ignorant or guilty mother.

"This low estimate of the importance of the fetal life is by no means restricted to the ignorant or to the lower classes of society. Educated, refined and fashionable women, yea, in many instances women whose lives are in other respects without reproach—mothers who are devoted with an ardent and self-denying affection to the children who already constitute the family—are perfectly indifferent concerning the fetus in utero. They seem not to realize that the being within them is indeed animate, that it is in verity a human being, body and spirit, that it is of importance, that its value is inestimable, having reference to this world and the next. Hence they in every way neglect its interests. They eat and drink, they walk and ride, they will practice no restraint, but will indulge every caprice, every passion, utterly regardless of the unseen, unloved embryo."

These facts are horrible, but they are too frequent and too true; often, very often, must all the eloquence and all the authority of the practitioner be employed; often he must, as it were, grasp the conscience of his weak and erring patient, and let her know, in language not to be misunderstood, that she is responsible to her Creator for the life of the being

within her. (Wharton and Stille's Med. Jur., Parturition, p. 92.)

In view of some of the facts here presented, what think you, then, of even learned physicians who will ruthlessly destroy a fetus by operative procedure without thought or care for the great moral laws underlying the system of medical jurisprudence—this, too, when the condition of mother needs no immediate interference? It certainly is not justified in moral law, and ought to be condemned by the principles of medical ethics.

DISCUSSION.

W. H. HAUGHIEY, BATTLE CREEK.

The papers have treated the subject very exhaustively, and in order to discuss it at any length we must repeat a great deal, and that sometimes can be done with profit. I see that my name is marked after (a). I infer from that that my discussion is to be directed mostly to (a) in the papers above, which is Etiology and Prophylaxis. Certainly the paper on Etiology and Prophylaxis covered the ground. Everything was touched, and one cannot help agreeing with all the deductions and conclusions arrived at by the essayist.

One point, however, although it does not bear wholly on abortion, yet it strikes me ought to be mentioned and taken into consideration when we are considering the etiology of abortions. We have heard mentioned septic endometritis and allied conditions. We have not heard mentioned today what I consider a frequent cause of these conditions, that is, double epididymitis, in the male. It is a fact that many of us have noticed, all of us, I believe, that a person suffering with double epididymitis, which may have been of quite long standing, months perhaps, becoming married, infects the unfortunate woman, who is not only apt to suffer with an abortion pretty soon, but also have left there a condition of inflammation, perhaps of the endometrium, or possibly it may extend higher up the tubes and we may have and frequently do, pyosalpinx. We may not only get that, we may get adhesions, inflammation extending to the adnexa, and uniting all of these organs together, rendering the woman sterile sometimes, or, if not completely so, in a condition favorable to abor-

tion. As soon as she becomes pregnant again, or soon after it, from these irritations, contraction of the uterus takes place, and the ovum is again expelled.

If we will direct our attention to the condition of epididymitis in a male and see to it that all traces of that disease are eliminated before he enters into wedlock, we will in a great many instances, I believe, eliminate one of the fruitful causes of abortion.

The treatment: I wish to touch a little bit on one point of the treatment, and that is in infected cases, where the infection has spread into the uterine walls at least, if not beyond. The treatment we all recommend and subscribe to, is the thorough emptying of that cavity. That is right, but yet it is wonderful how frequently efforts are made to thoroughly empty that cavity that are themselves abortive. The cavity is not completely emptied. But recently I was unfortunate enough to be a medical witness in a case where effort was made in that line. Of course the charge was one of criminal abortion. How that may be I don't know, but when I did the autopsy I found very plain evidence to me of interference in that uterine canal and cavity, and the patient was under treatment for several days, I forget now the exact number, before death took place.

That the cervix had been dilated the plainly marked congestion, on both sides, where the blades of the dilator would have rested, showed I can think of no other instrument that would have made such deep marked congestion as was there, leaving such an ecchymosed and blood-shot condition. Anyway there was evidence that an effort had been made to cleanse out that cavity.

I don't know what the instrument used was. I don't know whether it was a curette or not, but there were certainly parts of the placenta still remaining up near the cornua, and some adhering to the anterior, upper portion of this canal—quite a little bit, perhaps half a dram, maybe a dram, of this broken down, granular mass of placental tissue, still remaining after the patient had expired. The decidua vera was also present.

And all of this notwithstanding there must have been the greatest desire on the part of the operator to thoroughly do his work.

I mention this to show the difficulty (in these cases) to perfectly clean out the uterine cavity, and to urge that in infected cases the work be thoroughly and *early* done, before infection has spread beyond the endometrium. I would recommend that a *dull curette* be used, and the cavity swabbed with strong carbolic acid, or at least a strong disinfectant.

H. W. LONGYEAR, DETROIT.

Just a few words on treatment: I agree in the main with Dr. Yates in the use of the curette, providing you have not some other means that will do the same thing with less trouble and with less injury and irritation to the parts. Some years ago, realizing that the use of the curette was often harmful, usually required the use of an anesthetic, and consequently an assistant, I devised forceps to remove the secundines in cases of abortion, and they have been with me very satisfactory and have largely eliminated the objections to the curette. The instrument is made with a slight turn at the shank where it crosses, and in the blades of the forceps, and is thus so constructed that the jaws of the forceps will open in a very slightly dilated cervical canal; that is the principle upon which they are made, so that they can be introduced where there is very slight dilatation, and thus I find no further dilatation is needed in nine-tenths of the cases that I have seen, so that now I very rarely use the curette. Forceps can be used without producing pain to the patient. Simply put her across the bed in the lithotomy position, place the finger in the vagina against the cervix as a guide, and pass the forceps closed; open them when they are in the uterine cavity, and remove the contents, not usually *en masse*, but fragmentarily. In cases of hemorrhage attending abortion I use this instrument in that way, and always immediately. I do not tampon at all. I place the patient across the bed and in ten or fifteen minutes clear out the uterus completely with them, then wash out the cavity with carbolyzed water. If there has been any septic action at all, I use the iodine carbolic solution; generally I use the mixture recommended by Goodelle in his book under the head of "Endometritis." It is a mixture of iodine, carbolic acid and chloral. When the uterus is completely cleared there will be no more hemorrhage. You do not need a tampon at all. The tampon is an exceedingly unsatisfactory proceeding, and I think very few physicians are able to place one properly so that it does any good at all.

Simply placing a little cotton in the vagina does no good, as it soon settles down into a hard mass, and you get no pressure at all. Very few tampons, I think, are placed so as to be of any use whatever, and even when they are it simply extends the time of misery of the woman unnecessarily. The uterus can be cleaned out in a few minutes with the forceps.

Now, as to the use of the antistreptococcic serum mentioned by the doctor, I think we

should use that understandingly. Not because one has *sepsis*, go and give her a dose of anti-streptococcic serum. How do you know the variety of sepsis? You don't know it until you have made a culture, or in some way made a direct microscopical examination, perhaps of the contents of the uterus, or by taking a culture from the cervical canal and subjecting it to the proper time, and so on, and thus find out what the germ is. It may be the gonococcus, it may be the streptococcus, and it may be the staphylococcus, or the colon bacillus. If you go on before this and put in a dose of the remedy against the streptococcus, you run perhaps one chance in ten of being on the right track.

I think in these cases we should make a bacteriological diagnosis in every case. It is the only way to get at it scientifically.

W. P. MANTON, DETROIT.

I want to say just a word in regard to treatment. The question of the use of the curette is an important one. The employment of the curette depends very largely upon the nature of the abortion. If we have an inevitable abortion, this may be either partial or complete. If the abortion is complete, the ovum is cast off entirely, and there is no need of scraping the decidua membrane away. If, however, the abortion is incomplete, that is, if the membranes rupture,—if the decidua reflexa ruptures, and a portion or all of the decidua reflexa remains behind—then it is important to use the curette, and to get rid of that membrane. It seems to me that in all of these cases, the most important thing—I am not speaking of cases in which septic infection has already taken place—is to get proper drainage. In all pelvic surgery, drainage is of exceeding importance, and I deem it equally important in cases of abortion. If the ovum has been thrown off in its entirety, the cervical canal will be sufficiently patulous to allow the flow to drain away without further interference. If, on the other hand, we have an escape of the fetus, and a portion of the membranes or of the decidua reflexa, or the entire decidua left behind, we very often find that the cervix contracts down and the canal is exceedingly small. In such cases we must dilate the canal and in that way get good drainage. I am not in accord with Dr. Jewett in regard to the use of vaginal douches, especially in cases where there is a possibility of septic infection. I believe that the antiseptic douche removes a certain amount of danger—by washing away the secretion and discharge from the vagina.

I quite agree with Dr. Yates in what he said in regard to the use of the curette. It is not used enough, but at the same time it should be used judiciously, carefully and cautiously, and in those cases where it is indicated, and *not* indiscriminately.

REUBEN PETERSON, ANN ARBOR.

In regard to the first paper, it seems to me we will do well to keep up the old nomenclature of abortion, miscarriage and premature labor. Abortion may be considered to be up to the time of the formation of placenta, three months and a half. That is the time when we should use the sharp curette. After this period, when the uterine sinuses have been formed, we should use the dull curette or finger. If we use the sharp curette at this later period, we are apt to open up the uterine sinuses, and if there is any sepsis, bad results are apt to follow. In regard to the prophylactic treatment Dr. Lynds recommends, I have never seen any good result from the use in threatened abortion of Liquor Sedans, or any medicines of this kind. Morphine has helped. Rest is of more value. What shall the doctor do when he is called to a case of criminal abortion? He wonders whether it is necessary to protect himself. I one time thought that I had adopted a good method of protection in these cases. I had the girl sign a written statement, giving the name of the man who had produced the abortion, and stating that she had called me in to take care of the case. I enclosed this statement in another envelope, sealed them and placed them in the hands of an attorney, with the promise to the girl that if everything turned out all right, that the envelope would be handed back to her with the seal unbroken. Now, my attorney, of course, knew nothing about what the envelope contained. I finally, after adopting this procedure in a few cases, laid this matter before him, and he said that nothing could be worse than a statement secured under these conditions. It would look as if the doctor's part in the transaction was not exactly right and for that reason he had forced the statement out of the girl. This is not only a legal but a common sense view to take of the matter. It seems to me that our only protection is in having a witness in the shape of a colleague whom we call in to give the chloroform and assist us in the case. Our principal defense lies in our past conduct. If we are abortionists, it is generally known by the public. Our character is what stands us in good stead, and that is what we must rely upon.

J. H. CARSTENS, DETROIT.

I just want to say this on Etiology. In my experience, lacerations of the cervix and retro-displacements of the uterus are the most frequent causes of miscarriages. Outside of these natural causes, those produced by abortions are very many, as the doctor said, and so far as the chronic pelvic inflammation is concerned, it results afterwards in sterility and the development of ovarian, fibroid and other tumors.

As far as the treatment is concerned, I think Dr. Yates has splendidly given the whole subject, and there is really nothing to be added. I want to simply emphasize what he said about the curette. I hold that all these cases ought to be thoroughly put under the influence of chloroform, so that you can do the work thoroughly. You ought to be able to explore the uterine cavity, and you cannot with your finger always remove little shreds and pieces of membrane as well as you can with a curette or with a pair of forceps. If we do this we can thoroughly swab out the uterus afterwards with strong carbolic acid, and generally have no trouble at all.

As far as the other point is concerned that the gentleman from Kalamazoo read about, certainly we all agree. I think, there is nobody that would sanction any abortions, and we, every one of us, are most emphatic, and we have to fight that battle almost every day. We have to fight it with women, with individuals and with men; they have no principles. "Why, I didn't think it was wrong; there is nothing wrong about that. I don't feel any life yet," and you cannot make them understand that it is wrong.

But as far as producing abortion is concerned, in certain legitimate cases, that is the correct thing, and I want to very strongly oppose any idea that it is not justifiable to produce abortions. I have seen women die over and over again from the uncontrollable vomiting of pregnancy. What good do you accomplish? Is your fetus alive today or is it dead? I have seen women die as the result of desquamative nephritis, many continuing for a while, and getting worse and worse, and finally the women die as a result of that acute nephritis. Does anyone mean to tell me that it is not justifiable to produce an abortion on that woman? Why, it is most absurd. That child is dead today, and the mother is dead also. Have you accomplished anything? That is no principle at all. If I cannot save both of them, I will save one of them, and the question to me is, which life is the most valuable, and I hold that the mother with a half a dozen children clinging to her, who

need her help in the future, that that mother's life is worth far more than that of the fetus about which I know nothing, which may live or die in the future.

WM. F. METCALF, DETROIT.

I agree in the main with Dr. Yates' line of treatment. I have not myself for twelve years used the tampon. I have not found it necessary. I seldom know or never knew when sepsis has been introduced into the uterus, and I do not think it advisable to tampon and wait for hours until that sepsis has advanced.

I always have been satisfied with clearing out the uterine cavity immediately. It has always been satisfactory, and I do it with the finger if I can. If I find I cannot do it thoroughly with the finger, then I use the curette, but I guide the curette with my finger. I have not so educated my sense of touch that I can extend my nerve endings to the end of the curette, and cannot determine whether a uterine cavity is clean after a curettage or not, therefore in every case where possible I do the work with my finger, using the curette in some cases where the particles cannot be removed with the finger.

Dr. Carstens' emphatic statement of our position in the matter of justifiable abortion indicates the religion for succeeding generations in reference to this matter. We are directing and forming the religion, or the laws which relate individuals to each other, for those who follow us, and there need be no confusion. One would infer from Dr. Welsh's paper that members of this society, recognized members of this society, lightly sacrifice the life of a fetus; that is not so. If it be known that a member of this society takes such a position, he would not maintain his standing in the society. The implication is that the members of the State Society regard lightly this matter. That would be the inference of a layman, perhaps, present at this meeting. This is not true.

One other thought Dr. Carstens spoke of: The production of abortion in cases of persistent nausea. In many of those cases, if we dilate to the full extent of the cervical muscle, there will be no abortion and the nausea will be stopped. I believe that to be true in a majority of cases.

C. K. LAHUIS, KALAMAZOO.

To somewhat enlighten Dr. Metcalf and possibly Dr. Peterson, in regard to the statement at least Dr. Metcalf just made, that not any of our members are guilty of criminal abortion, and at the same time probably explain why Dr. Welsh

takes this very strong position, I would like to state that there *are* members of this society that are known to commit criminal abortion day after day. I make it a practice, as Dr. Peterson said he did at one time, to get a statement from every patient of this nature I am called to. I make out the statement, and have it signed in the presence of witnesses, that "such and such a doctor, knowing my condition, introduced instruments into my womb repeatedly;" and these written statements are in my possession. Have I proof that will hold in court to make a statement against that man? This is about the view I would like to have the members of this section discuss this afternoon. How can we reach these criminal abortionists? Even though I have these papers in my possession, are they proof evident before a court of justice? The patients survived. If they had died, I think we could have made very short work of this man. Now, what can we do in those cases? If some of the older members could help me out, I would like it very much. I always have another man present with me when the patient makes the statement. Now, a member like that has been admitted to the State Society, and his blank has been signed by—I am not absolutely sure, but the statement has been made to me that his blank has been signed by members of the staff of the State University. He is not a member of the local society, and could never hold a membership in his local society.

J. G. LYND, ANN ARBOR.

In closing the discussion, I wish to refer to the use of the curette, finger or forceps, in clearing out the uterus. I would like to say that so far as my experience goes in clearing out the uterus with the finger, it has been unsatisfactory. When the uterus is large enough to get your finger in, it is too large to reach the fundus so as to clear it out thoroughly with your finger, and when it is too small to get your finger in, of course it is useless. The combination of the forceps, the curette forceps, such as Dr. Longyear described, and the curette, is what I have found the most satisfactory. You can get hold of pieces of the membrane and pieces of the placenta, and pieces of the chorion with the forceps that you cannot remove with the curette; the curette will slip over them; and you can get pieces that are left behind with the curette that the forceps will not get. I usually get out all I can with the forceps and then run over the uterine wall with the curette to be sure that it is cleaned out, and then wash it out with some sterile solution.

There is just one other thing in regard to the division, premature delivery, abortion, miscarriage and premature labor.

One would almost think from some of this discussion and the books, that suddenly, at the fourth month, the placenta springs into existence and up to that time there is none. That is a mistaken idea entirely, because from the time that the ovum begins to develop, and the chorion to form, there is a gradual development of the placenta, and there is placental tissue developed in the second month, but it is not so thoroughly developed as it is in the fourth; at the fourth month all the chorionic tissue has atrophied, and there is nothing then over the transparent membranes, except at the point of the placenta, but up to that time the point of the development of the placenta is thicker and heavier, gradually becoming more and more so until it is fully formed by the fourth month.

H. W. YATES, DETROIT.

I do not quite get he pertinency of Dr. Peterson's objection to not obtaining a statement from the patient. This has been brought up to me many times. It has to every practitioner who does work of this kind, but brought up to me especially bluntly in a case that I was called to see very soon after the Elizabeth Mahan case, so-called, in Detroit. I was called to see a married woman who had had a criminal operation performed. That was admitted. I knew nothing of who performed it, and they did not tell me, but on making the examination I attempted to first of all discover the depth of the uterus, and I did it as gently as I knew how, because, as there was a septic condition, I didn't know how soft those drawn walls were, and I didn't know how easily I might go through them, and consequently I did it with as much delicacy of touch as I was capable, and yet my probe passed immediately through the uterine cavity, or rather, I thought it passed through. It did not seem as if it was possible that the uterus was so high from what I could feel above the pubis, and so I took a large instrument and introduced it in the uterus, doing the same thing as delicately as possible. This was a large-sized urethral sound, and it passed through without absolutely any resistance whatever, and so much so that I could place my hand gently over the abdominal wall and feel this sound. Now, I had obtained the statement in this case because I knew it was a criminal condition I had to deal with, notwithstanding the fact that I had a physician there as my assistant, who was there to bear me out. I believe that we should not de-

pend alone upon our reputation in the past for these things. Many a man's reputation in the past won't carry him through when he comes into a criminal court; he is in a different corner than he has ever been in before. If he is judged according to his fellow physicians, he may come out all right, but when he is on the witness stand in a criminal court, I imagine it is a different proceeding altogether.

In regard to Dr. Manton's remark regarding the vaginal douche, I think he has misconstrued it. As a matter of fact, the douche was referred to as the vaginal douche, not as the uterine douche, and Jewett did not bring that out at all, simply speaking of the vaginal secretions, all of us recognizing the necessity sometimes of a uterine douche.

Dr. Longyear's forceps I am familiar with, and fortunately own one, and have used it with much pleasure, but I have not been able—perhaps because of my clumsiness with it, and perhaps because I haven't used it sufficiently; at least I am not familiar enough with its use so that I can obtain all the decidua in these cases without the curette. At least on using a curette after using the forceps, I get some of the placental tissue, or the decidua.

In regard, also, to Dr. Longyear's remark of the antistreptococcic serum, I believe his remarks are certainly apropos, but as to our delay in using the serum, I don't see any particular reason for it. The mere fact whether or not we have a streptococcic infection alone, doesn't make any particular difference in regard to the use of the antistreptococcic serum, because it is perfectly safe to use in any quantity, and it would seem, if we are suspicious that the patient has a streptococcic infection, that we should use it freely, and at the same time take a culture to ascertain definitely the kind of infection.

I believe all that Dr. Metcalf brought out relative to the curette, and in many cases the curette does harm; I believe that the finger should do all that can be done, but in recent abortions the uterus is so small that the finger cannot get it away, that is, in order to make a perfect curette of your finger you must have a perfect flexion, and the uterus in these early abortions will not admit of that flexion.

A. H. ROCKWELL, KALAMAZOO.

It seems to me that there is a little confusion in the discussion of this question. It seems to me that no physician would attempt to destroy the life of a fetus that he believed it was possible to save. If it is possible to save the life of the

fetus, it is probable that both lives can be saved. If it is determined beyond peradventure, by good counsel, that the mother's life will surely be sacrificed unless the abortion is produced, it necessarily follows that the life of the fetus also will be sacrificed; so there you have it. Both lives are practically sacrificed unless interference is had.

Now, it seems to me very clear that it is our duty to save one life; they are both in the pit; we can reach down and get one of them, we cannot get both. No physician, as I said, would attempt to sacrifice the life of a fetus that he believed it was possible to save, because if it is possible to save the life of the fetus it is probable that he can save both lives.

RUPTURE OF INTESTINE—OPERATION, RECOVERY.

FREDERICK W. ROBBINS,
Detroit.

H. P., age 41, a farm laborer, was at eleven a. m., Nov. 16th, 1901, loading beets from a wagon to a flat car standing on a siding about eight miles from the city of Detroit. While thus engaged two cars were shunted on to the same siding; no brakeman being in attendance, they struck the beet car with considerable force. The horses became frightened, unmanageable, and ran, throwing our patient; but he has no knowledge of how or upon what he fell. When I saw him five hours after the accident he had been given two doses of morphine by Dr. J. S. Dohany, who was in attendance, yet was groaning with severe pain across the lower part of the abdomen, which was increased by pressure. There was no bloating or loss of liver dullness, no shock or rise of temperature; the pulse was about one hundred and five. Urine was normal in quantity and not tinged with blood. From these last negative symptoms injury to the kidneys or bladder was excluded, and

notwithstanding absence of tympanites and presence of liver dullness it seemed to me that the severe pain, not controlled easily by morphine, pointed to some grave internal injury. There was no vomiting to call one's attention to acute obstruction of volvulus, nor was there any mark or contusion on the abdomen. The diagnosis of probable rupture of the intestine was made and with it came the determination to operate on this man, as soon as possible, before peritonitis should begin its deadly work. Patient came to the city hall sitting in a suburban car and from there taken to St. Mary's Hospital. Dr. Theodore A. McGraw, chief surgeon of the Pere Marquette Railroad, was asked to see the patient, and coincided in the diagnosis and wisdom of immediate operation, during which he assisted with kindly and wise suggestions.

At eight o'clock, nine hours after accident, I opened abdomen in median line and at once a yellowish white fluid began to flow out, and on the intestine for a distance of nearly two feet there was considerable exudate. After a short search an opening the size of a large hazelnut was found. Its edges were rolled out and from the opening, intestinal contents were coming. The wound was stitched with fine silk, entire abdominal cavity thoroughly irrigated, abdominal wall carefully sutured layer by layer and a drain left in place. At time of operation temperature was 99.9°, pulse 98. At eleven-thirty of same day temperature was 99°, pulse 108. On the first and second day following temperature reached 100.3°, but at no other time did it reach 100°.

The pulse, however, ranged above 100 for eleven days, usually from 104 to 110, but for some reason on the fifth day after

operation the bowels became quite tympanitic and pulse ran from 120 to 126, and there was some hiccough, but in other respects patient seemed in good condition. On removal of drain and giving laxative, gas was expelled and there was no further trouble. He left the hospital entirely well Jan. 2nd, 1902, but had practically recovered in three weeks after operation.

It is not often that one has the opportunity to save a life after an injury like this. Given the opportunity, is it always grasped? Aside from wounds of important blood vessels one can hardly imagine a case where the life of the injured hangs more directly upon the good judgment and quick action of the surgeon.

After this short clinical history there are a few points to be briefly considered, namely: nature of the wound, symptoms and treatment. As to the nature of the wound, it has usually been attributed to sudden sharp blows upon the abdomen, which, when coils of intestines are distended with gas, will produce rupture, usually at some point where there is permanent fixation, as junction of fixed duodenum and movable jejunum.

A. Schmidt, however, in *Münchener Medicinische Wochenschrift*, July 12th, 1898, reports eight cases of intestinal injury by compression against the vertebra, and H. C. Keenan, *Phila. Med. Journal*, Sept. 2nd, 1899, reports Curtis as claiming that most cases of so-called rupture are contused lacerated wounds. The bowel would not be torn unless it be caught between force in front and spine or pelvic bone behind. Also that a bowel moderately distended is apt to escape. He, however, admits that true rupture may take place if separated portions of the intestine be largely distended. In my case there

was no distention of bowels, which were nearly empty. No gas had entered abdominal cavity, as evidenced by absence of tympanites and normal presence of liver dullness. The bicycle rider, who occasionally rim cuts his flaccid tire can well appreciate the contusion or laceration of the intestine from a fall upon a cart wheel or other hard body, by which means the intestine is forcibly driven against the spinal column. In my case there was not a mark on the body and the intestine was perfectly healthy, and I have no hesitancy in classing it as a case of lacerated wound. While this was a complete lacerated wound it must be borne in mind that contusions of all grades can be produced in the same way. If of moderate severity the patient will recover with or without a mild localized peritonitis, but if the contusion is a severe one it is quite possible after several days to have a perforation due to pressure necrosis and sloughing, with death of the patient a very probable result. I have been asked why I operated on this case. This question naturally causes us to study the symptoms as observed by various authors in order to see if there are any signs which may be depended on. Ashunt mentions immediate fainting and collapse, then intense pain, agonizing or burning in character. He lays little stress on the character of the pulse, which may be slow, feeble and intermitting, or natural. Thirst and vomiting are mentioned.

Angerer claims that shock has little diagnostic value. Pulse weak, frequent. Pain may be absent, and says that liver dullness disappears only when rupture is near the liver.

De Costa gives profound shock, tympanites and pain as first symptoms. Vomiting and thoracic respiration are usually

present, with dry tongue and great thirst. Pulse, at first slow, becomes rapid with high tension.

Rose and Carless speak just of severe, lasting shock and intense abdominal pain. Immediate is the onset of acute peritonitis. Vomiting, they say, is not a marked feature, and the diagnosis must be uncertain in the absence of resonance over liver or emphysema of abdominal walls, the thorax not being injured.

Richardson mentions pain as the leading symptom, usually followed by immediate and fatal peritonitis.

American Text Boox of Surgery does not mention pain as a symptom.

Not to recite further authorities, it appears that observers have noticed very different symptoms as applied to individual cases. When accumulations of gas are in the intestinal tract tympanites may be so marked that the solid viscera cannot be outlined, and it is fair to presume that abdominal emphysema in the absence of thoracic injury is pathognomonic of intestinal rupture.

Shock may or may not be an important symptom, depending probably upon the nervous make-up of the individual, and possibly the extent of rupture; although one case is mentioned where a boy walked nearly a mile after the intestine was torn in two.

Where shock is great, the pulse would naturally be slow, as it usually is in shock, and becomes fast later. In my case there were just two symptoms that marked a serious injury, namely, a rapid pulse and agonizing pain. It was the symptom of pain increased on pressure that led to the diagnosis of serious internal injury. I do not believe it scarcely possible that such severe pain could come from a severe

contusion of the soft parts. Rather would the nerve endings be paralyzed, and even if the contusion be so severe as to later produce slough, we might by the absence of severe pain be lulled into a sense of security. In such case it would be the part of wisdom to keep the patient absolutely quiet with opiates on the one hand and by an absolutely starvation diet and possible washing out of the stomach, if the injury was soon after having taken a meal, to lessen intestinal action and allow a plastic exudate to form and protect the peritoneum. The intense pain, it seems to me, is due to a local irritation of the peritoneum, rather than to the injury of intestine. In cases as in mine, where the location of the pain is such that other important organs are probably not affected, it is not safe to wait until general peritonitis sets in before knowing what the trouble is, and the authorities are much more a unit as to the treatment than they are as to the symptoms. Yet some of them are not to my mind radical enough, the older writers naturally advising an expectant plan of treatment, or the careful consideration of the question of laparotomy. Rose and Carless, who do not think symptoms very satisfactory, say that in the absence of distinct symptoms the treatment must be expectant.

The American Text Book of Surgery: If rupture is improbable, patient is to be kept quiet in bed and will usually recover from contusions, but if rupture is probable immediate laparotomy gives better chances than does waiting for symptoms.

De Costa is practically in accord with the idea of operation, but in cases of shock differs from several others in advising waiting for reaction. Angerer says that laparotomy is to be performed in all doubtful cases. "One should not hesitate

to operate during shock." "More cases die from conservatism than any other cause."

Albert: "There is no clearer indication for laparotomy than rupture of intestine."

Such is the position taken by well-known authorities. The opinions of those writing previous to the modern operating era are worthless today. It is well to keep in mind that portion of my quotation from Angerer: "More cases die from conservatism than any other cause;" then given a case of probable rupture of the intestine, the question should be, not shall a laparotomy be performed, but how soon will it be possible to properly prepare the patient and his surroundings that a laparotomy may be conscientiously done? Mistakes in diagnosis may sometimes be made, and an operation be futile, but the operation will not be the mistake.

DISCUSSION.

J. A. MCMILLAN, DETROIT.

Many of us do not very often have an opportunity of having such an experience as Dr. Robbins had; I think that these cases are very valuable to us when they are reported, and I think the doctor is to be complimented upon the rapidity with which he made up his mind to do that operation.

It would seem that the conclusion to be drawn from the operation is this: that when there is a history of any accident or other injury that might be likely to cause a rupture of the intestine, the thing to do is to operate and to be sure of your diagnosis; and if there be no laceration or rupture of the intestine, no harm is done, and if there be a laceration or rupture you give the patient the only possible chance there is for his life.

G. C. HAFFORD, ALBION.

I would like to put on record this afternoon a case in which the ending was not so favorable as in Dr. Robbins' case, and I mention it because it never has been mentioned before, and it bears out the advice which has been given us as to an

operation even when diagnostic signs are lacking.

I was called something over ten years ago to see a man who, while riding a bicycle, had fallen; he was riding the bicycle on a tramway 15 or 16 feet high, and in falling over the tramway he fell in such a manner that the handle of the bicycle punched the abdomen in the region of the umbilicus. He got up and walked about a half mile to his home; he complained of no pain, no dizziness and no nausea. He felt very well until about six hours afterwards, when he began to have trouble—the symptoms I cannot tell. I was not present and do not remember them all, anyway. In about 36 hours death occurred, and I was sent for to perform the autopsy, as there was some question as to the cause of death. At the autopsy we found a hole in the small intestine perhaps an inch and a half or two inches in diameter, with no attempt to repair by nature, and with not as much general peritonitis as you would expect in that length of time. The hole seemed to be as cleanly punched out as though a section of the bowel was removed. It was not a rent or slit, it was a round hole, and you could not see that any part of the intestine was missing. There is not much doubt but that a timely operation would have saved this man, and so we have the lesson again. In doubt, make an exploratory operation early. Dr. Robbins is to be congratulated as well as his patient, for these cases require courage and good judgment to do what to the patient and friends may seem unnecessary.

L. J. HIRSCHMAN, DETROIT.

I would like to have Dr. Robbins tell us whether, when he opened the abdomen, nine or ten hours after the injury, there was any attempt of nature to close the wound, by agglutination of omentum or other serous surfaces to the point of rupture?

F. W. ROBBINS, DETROIT.

In this case there was no blood count; there was scarcely an opportunity between five o'clock, when I saw him, and eight o'clock, when he was operated upon, to make a blood count. Though it might have been done, I don't see how it could have revealed any great departure from the normal.

In this case there was no evident attempt at repair; the intestine for a distance of nearly two feet was red and covered with lymph; at the point of the opening of the wound the intestine was rolled out, as we naturally expect when the intestine is cut; there was considerable white lymphoid material that appeared when the opening

into the abdomen was made. Peritonitis was just beginning and there seemed to be no abnormality of the parts except so far as the fibrinoid exudate was evident upon the intestine for a distance of one and a half to two feet.

THERAPEUTIC ACTION OF THE ROENTGEN RAYS IN DERMA- TOSIS AND MALIGNANT GROWTHS.

HENRY R. VARNEY,
Detroit.

It is now a well-established fact that the Finsen light, the electric arc light, used by Malcolm Morris in London, Eng., and the Roentgen Rays, now being used by careful investigators in this country, are effective therapeutic agents in dermatological lesions, and some malignant growths, as sarcoma and epithelioma.

At no time in the history of our profession has so much interest been awakened in the research as to the cause of cancer and its treatment as at the present time. While it may be true that Americans are following the lead of Europeans in the light treatment, if radiotherapy in this country, with our state-sustained Research Cancer Laboratory at Buffalo, N. Y., is any index, we may yet lead Europe in some improved methods or results obtained.

So rapid and almost marvelous have been the results of cases under radiotherapy, by Drs. Pusey, of Chicago, Morton, of New York City, Williams, of Boston, and many others, that to ask the profession to accept such reports without seeing the cases, or the photographs of the results, is asking, to my mind, more than has ever in former history been expected of the surgeon or general practitioner; for we all know that statistics do lie, and the

microscope is accommodating. Then, too, mistakes in diagnosis might occur.

As a therapeutic agent, the ray has grown in favor for the past two years. Just the form of growths the sure relief of which it is particularly adapted to, and the duration of the relief, is as yet unsettled. However, another year's careful investigation may determine its exact field of usefulness. Every day brings to light some new apparatus for producing the ray, the time of exposures, the penetrating power of the ray, the absorbent properties of the tissues as regards the ray in different cases, etc., etc., and today we find ourselves with no universal technique in administering this therapeutic agent.

Less than a year ago, most operators deemed the coil-production of the ray, with its high amperage and low voltage, the only production that would bring about stimulating changes in the normal tissues and abnormal growths. My experience has been that the small static exciter of the rays, with its low amperage and high voltage, compared to the coil, is less liable to burn, does not destroy new tissue growths so frequently, has a far more steady ray, can be run for hours without heating the electrodes, is cheaper to operate, and that the therapeutic results are more gratifying than with the heavy coil exciter of the ray. There is a great diversity of opinion, however, as to the most satisfactory apparatus for the production of therapeutic results.

The apparatus used by me for the last six months is an eight-plate static exciter, with highly interrupted induction current. It has a rheostat regulation speed of about 350 revolutions a minute, of thirty-two inch plates. The current produced is less than one ampere, and with a German tube a very satisfactory ray is pro-

duced, one that will penetrate the body, show heart action and diaphragm. Tubes, when new, should have a very low vacuum which will not force back a spark gap of more than an inch. This tube is termed a soft tube by Radiotherapists. It produces a ray of bluish purple, which has little power to penetrate the tissues as far as can be seen by the flouroscope. By this ray we can bring out a clear radiograph, not because it has more action on the sensitized plate, but because most operators overexpose with a hard tube, and the ray, with its great penetrating power, passes through the bone, giving faint shadow of the bone on the plate; while with a soft tube a deep, distinct shadow is obtained. Yet, tubes in use are constantly changing. The new soft tube this week, used for four hours each day, is a medium tube next, and in another week it has become a hard tube. In a short time it is useless. Hence, the operator must constantly test his tubes, for each has its field of therapeutic action. The soft tube, with its low penetrating power, has a far more rapid stimulating action, superficially, on the normal tissue than does the highly penetrating hard tube, and it is with this soft tube that we must watch carefully for over-stimulation or destruction to tissue. Hence we find the soft tube particularly adapted to superficial dermatoses and growths, while to influence the deep-seated, malignant conditions, we must use the medium, or hard tube. Having, therefore, acquainted ourselves with the degrees of penetration and action of the different tubes, we must then study the normal density of different tissues. The power of the rays to penetrate the tissues was first demonstrated by Godneff, who placed sealed glass tubes containing chloride of silver in the tis-

sues of the cat and dog. Upon exposure, this chloride was blackened, which did not occur in the case of the unexposed tubes. I have also noted, in treatment of large epithelioma of the breast, involving the whole axilla, and extending two inches on the back, that in exposing the anterior surface, the posterior surface healed almost as rapidly as the anterior surface, by the rays passing through the patient's body.

Recurrent scirus nodules in a remaining breast have been completely carried away, as well as osteo-sarcoma developments. Therefore, much is to be expected of the penetrating power of the ray, its field of usefulness being far greater than superficial growths and lesions.

The action of the rays upon normal cell tissues produces a radiant energy, which is a stimulation of that cell, and this stimulation, long continued, will produce atrophy and death, as noted by the action of the rays on the hair bulb. This same chemical, radiant energy thrown upon a pathological cell surrounded by the stimulated normal cell, it is only a question of time when the cell with the least resistance will be broken down first, atrophied, rendered harmless and carried away by the highly stimulated normal cell.

While we have a decided action upon pathological conditions by the rays, it is not due wholly to its action upon micro-organisms. We know that typhoid bacillus, the anthrax, and the bacillus pyocaneus grow best in the dark; next best, in red light, or the heat ray, and poorest, in the chemical ray or violent light. All rays of the spectrum hamper germ life, in over-stimulation of the germ or retarding growth.

In exposing tubercle bacilli to the rays, different duration of time and placing

them in an incubator the temperature of the human body, with control tubes inoculated at the same time, from the same culture, distinct growth was apparent in the exposed tubes within forty-eight hours, showing that the action of the rays, in lupus, is not wholly antiseptic or chemical, but a stimulation of overgrowth of the germ by ethereal vibrations, or an adverse attenuation of the germ by overgrowth, with stimulation of the normal tissue, rendering this tissue unsuitable for the growth of the germ, and casting off the germ in the pathological debris.

Repeated illustrations of exposure of ulcerated surfaces, indurated acne, and tubercular gumma show that pus-forming germs are checked, inhibited in their growth. A foul-discharging ulcerating epithelioma, after but few exposures, becomes clean, odor no longer noticeable, and discharge greatly diminished; the growth assumes a healthy look; so with the cold abscess type of skin lesions. It not only checks the formation, but also carries away their ptomaine, and brings about far less scarring than any other stimulating therapeutic application known. Yet the required stimulation to kill germs has no constant relation to the impairment of their growth, or overgrowth. Different bacilli are differently influenced by the rays (chemically an antiseptic action or ethereal vibration stimulation is overgrowth).

The lowest forms of germ life, in stagnant water, show almost instant stimulation when the rays are thrown upon an unprotected field of this form of life, while with continued exposure activity grows less, and soon the whole field is quiet, with the addition of sterilized water to counteract evaporation. Stimulation occurred at once, lasting for from one-

half to twelve minutes, when death to all life was apparent. This stimulating effect upon the normal tissue, and just what takes place in the tissues during stimulation, affords a most interesting field for experimental study, and may offer something new to our pathology at the present time.

In watching the circulation of the tadpole, mounted upon a microscopic stage, its body carefully wrapped in absorbent cotton, which not only keeps the tadpole quiet, but furnishes a good supply of water, I was able to note changes in its tail before and during a long stimulating exposure to the rays. The first change noticed was a quickening of the current, with the blood cells traveling single file in the vessel. Second, in less than a fourth of a minute there was a slowing of the current, with an increase in the number of blood cells, the white increasing more rapidly than the red, traveling now three abreast. Third, current at a stasis blocked by the rapidly increasing numbers of white cells. Fourth, the white cells were seen passing through and outside of the vessel walls until the whole field was one mass of cells. Finsen, and others, have noted nearly the same changes, and have also reported a change in the shape of the red blood cells, that they became contracted and stubbed. Yet there was no death to the cell nor loss of hemoglobin. This I have not observed, so far.

If we were to compare the condition existing in a normal inflammation, with its hyperemia and heat, redness, swelling, pain, irritation, contraction, and dilatation of the vessels, exceleration of the current, retardation, partial or complete escape of white cells through the vessel wall, phagocytosis, general cell proliferation, reorganization and repair, and cicatrization, we

would discover that the histiological conditions existing in the stimulation produced by the rays are similar, if not identical, exciting a normal process of repair in the normal tissues.

This inflammation, produced gradually by the rays, does not cause pain. But if pain existed before exposure it is the exception to a most constant rule if the pain is not relieved with from one to three exposures. Yet if an extensive reaction is produced, great pain will result as in an extensive, deep-seated inflammation from any other cause.

We know from experiments with plant life that the electric arc light has nearly the same vital stimulating influence as the sun's rays. Siemens found that plants exposed to the sun's rays six hours, and six hours to electric light, far surpassed those in darkness, or under ordinary conditions. Plants were more vigorous and flavor of fruit unsurpassed. The chemical or actinic ray of the sun, causing erythema or sunburn, produces the same action as the arc light, except that it results more quickly with the electric light, with no sensation of a burn, as with the sun's rays, until days after the effect is produced, because of the absence of the red, or heat ray, showing the same stimulating influence upon the skin.

When this physiological, stimulating effect is produced, the waxy edge of the epithelioma can be seen being rapidly carried away from day to day. The same is true in Keloid deposits, tubercular enlargements, and osteosarcomatus tumors. It is extremely important that the operator produce this stimulating effect gradually, and that he continue the effect without overstimulation and destruction of new tissue or atrophy of normal tissue. This characteristic, stimulating condition

once produced, may spread for a week, and continue two weeks, involving areas far remote from the exposed parts, and if the lesion is local and superficial, treatment may be stopped, and when inflammation subsides the lesion will be much improved, if not entirely healed. If it be a malignant, deep-seated growth, softening and diminution in size will be apparent. If an open ulcer is being treated, there will be less discharge, absence of odor, relief from pain, but not a result unless the physiological effect is obtained. In grave, inoperable, malignant conditions, where stimulation, most active, must be continually kept up, by protection of your areas of dermatitis, with tin-foil or sheet-lead, different areas of the growth, at different angles, may be exposed. I have cases that have been with me for from three to six months, that have peeled from four to twelve times, yet lose only now and then one of continuous daily exposures, with but little, if any, injury or destruction of normal tissues.

If we were to compare a normal inflammation with the stimulation produced by the rays, we would discover that the existing conditions, histologically, are similar, if not identical.

There can be no definite, universal rule, in applying the rays in different classes of disease, or in patients with the same disease, for no two cases react the same, with practically the same ray. Every case is at the mercy of the operator, who should always begin exposures of short duration, should examine the parts exposed, before and after every treatment, note the first stimulating symptom, erythema. Blondes react more quickly than brunettes; old people more slowly than the middle-aged, or young, and are much more liable to burn. Because of less cell

resistance, tissues near the bone react more rapidly than tissues having fat underlying them.

Just here let me emphasize the importance of administering enough of the rays to cause chemical retrogression of the pathological condition, and not destroy the ethereal vibration in the normal tissue, if a result is to be obtained.

Two years ago Finsen stated that the diseases that are to be treated successfully by phototherapy, must be: First, local; second, superficial; third, bacterial; and that the ray applied must be strong, concentrated and cool. The advance made in radiotherapy since then, with its great penetration, gives us much encouragement for future research.

From a therapeutic standpoint, it is yet unsettled whether radiotherapy is to excel the enormous success of phototherapy in Copenhagen and London, or that they are identical in their action. Certainly results are apparent with both.

In no way do I wish to convey the impression that the ray is a cure-all in malignant conditions. While we have, as far as can be determined, a complete removal of the growth, yet some cases will show only a checking of the growth for a time, and relief of pain; then suddenly it will grow as rapidly as before, the ray seeming to have lost effect, even though an increase in time of exposure be given. At no time have I allowed the rays to offer a substitute where the patient would submit to a complete removal by the surgeon.

Yet I believe we are on the eve of a revolution in the management of many deforming skin affections, and that the surgeon may be encouraged in attempting the removal of what seems a hopeless, in-

operable, malignant condition, because of the rays offering one more source of relief, if there is a recurrence. I believe in the application of the rays after every operation for the removal of the malignant conditions, for it can do no harm, and it may assist in the stimulation of normal repair. Cases of this class that have been referred to me by surgeons, with rapidly recurring conditions, which I am sure would have resulted in death, have been greatly benefited. Many of them are practically well as far as can be determined, up to date, and in some cases many months have elapsed since this after-operation treatment has been discontinued.

In studying farther this new field of research, I have with me a few types of diseases that are influenced by this treatment and will perhaps be of more interest to the society from a practical standpoint. They are now under treatment, and may aid in illustrating the action of the rays. These patients are, with but few exceptions, those referred to me by surgeons from different parts of the state and Canada, to whom we are indebted as well as to the patients who have so kindly consented to come before us.

In conclusion, let us note what is accomplished by the rays:

First: Relief of pain.

Second: Diminution of new growths.

Third: Hampers germ life.

Fourth: Assists in disappearance of odor and discharge.

Fifth: Excites a normal process of repair.

Dangers and uncertainties:

First: Possibilities of burns and gangrene.

Second: Indefinite dosage.

Third: No universal technique.

Fourth: Difficulty in ascertaining when you are at the danger point in overstimulation.

Fifth: Similar diseases pathologically do not react the same.

DISCUSSION.

F. B. TIBBALS, DETROIT.

We are all indebted to Dr. Varney for an exceedingly interesting paper and for the exhibition of a number of interesting cases. It is a new topic, and a topic which few of us know much of, from the standpoint of personal experience. My own experience with the rays is limited; few men, perhaps one or two in each city, have the necessary apparatus, and that is properly so from the expense of the apparatus, and the length of time required in the treatment of cases and the amount of experience necessary in order to properly treat these cases, because from what the doctor has told us a good deal of experience is necessary as to the length of exposure, the method of exposure, and the kind of tube and apparatus to be used. There is no question at all but that the X-ray treatment is a great addition to the treatment of lupus, but whether the ray will ever take the place of operative treatment for malignant diseases is a matter of doubt. I question it. We will for years, at least, prefer the knife in cases of operable malignant disease, but in many cases which are inoperable, which have been hopeless heretofore, and in cases of recurrence after operation, the rays appear to have an exceedingly brilliant future, and we can all hope, at least, that the prospects which now appear will by the lapse of time be proven to be absolutely correct; time has not yet gone by sufficiently to prove that these apparent recoveries are permanent.

W. E. NEWARK, CHARLOTTE.

I want to thank Dr. Varney for the very interesting paper given us, and for the cases he has shown us. I have been reading the literature upon this subject and experimenting a little along these lines; I haven't had the chance to treat the number of cases he has, because I haven't had the opportunity. I am very much interested in the subject. I have been reading of such men as Puney, of Chicago, and Morgan, of New York, but I didn't know we had such an able operator near by. I am glad I have seen the doctor, and hope I may see more of him in the future. One more

point that I wish to emphasize: A few days ago I saw a bad burn from the X-ray, and I think physicians ought to be careful about over-exposure; it is a bad advertisement for the X-ray, as well as for the physician. I think we ought to be very careful. I am very much pleased that I could be here to hear this paper.

W. T. DODGE, BIG RAPIDS.

The report that has been given by Dr. Varney has been an exceedingly interesting one, and if any of you have not been following the reports of such cases it must be a considerable of a surprise to you.

We have all seen scattering reports of the use of the X-ray in malignant growths for the past year or so. I had no faith in the efficacy of the treatment until about four months ago, when the reports became so definite, and pictures similar to those exhibited here today, published by Dr. Morton, of New York, and others, became so numerous that I began the use of the treatment, first in a case of cancer of the throat and tongue. The patient had got to a point where it was evident that death would soon ensue; he had reached the point where it was only possible for him to swallow small quantities of liquids, and he was rapidly undergoing starvation; he had an ulcerated sinus through the throat to the neck, and the odor from him was exceedingly offensive. After the second or third exposure to the X-rays the odor disappeared, the swelling subsided rapidly, and after a period of four months' treatment he is very much improved. There is still a great deal of disease in his tongue and in his throat, but nevertheless he is able to swallow solid food and he is gaining in flesh. After observing the improvement in his case, I sent for the return of a patient upon whom I had operated in January for cancer of the vagina. You know that is a malignant affection and return usually takes place after operation. Early in January I operated upon the lady, and the pathologist reported the growth to be a carcinoma. Recurrence soon took place, and subsequently I received several secondary nodules. She returned home in six weeks.

Upon my solicitation she was brought back eight weeks ago, when she was suffering intense pain, requiring eight quarter grain doses of morphine every twenty-four hours, and was unable to sleep. There was an extensive recurrence of the growth. The entire vulva and clitoris was enlarged and hard; there were three large nodules, one of them as large as a hen's egg and one as large as my fist in the abdominal wall; I

gave her a very long exposure the first time, taking long chances in producing burns; at the present time the superficial growths have disappeared, there is some disease in the vagina, and apparently some in the uterus, though there was no disease in the uterus six months ago, but all the external growths have disappeared completely and the woman has grown in flesh and is able to walk around.

H. R. VARNEY, DETROIT.

In regard to the question of burns, I showed you a case of burning today. I believe one has to burn them and keep burning them as long as the extent of the burn is known.

In regard to the after-treatment of malignant cases, I can now say, as I did in my paper, it certainly can do no harm, and I believe it is worth a trial.

I have several cases referred by Dr. McGraw and others, of osteo-sarcoma, that come to me twice a week, giving the rays as a preventive of any recurrence, and they are comfortable as far as we can see; there is no recurrence. We do not know what we shall accomplish, but we deem it worthy of trial.

I have not treated cases of cancer of the stomach, and other abdominal growths as yet.

I do not hold out the ray as a cure-all. I have failures and I have cases where I can only check the growth for a short time, but still these patients are made comfortable without opiates. As a rule they come and take exposure, after which they sleep well.

Report of Committee on Necrology.

Since the printing of the Report of the Committee on Necrology (Vol. I, No. 3, November, 1902) the Editor has received the following information relative to the life of Dr. Chas. F. Morgan, of Greenville:

Doctor Charles F. Morgan was born at North Wilton, N. Y., Oct. 6, 1845. He served one year in the army, enlisting in 1861, and was discharged for disabili-

ties received in service. He graduated from Yale in January, 1866, and practiced at Mt. Morris, N. Y., until the spring, 1869, when he came to Michigan and associated himself with Dr. J. B. Drummond at Greenville. In 1885 he took a post-graduate course at Bellevue Hospital, New York.

In 1892, while operating on a septic case, he was infected and nearly lost his life as a result of severe blood poisoning. After a prolonged convalescence he resumed a portion of his practice, but was soon compelled to relinquish it on account of mental derangement, probably traceable to his previous illness, and died at the Northern Michigan Asylum April 29, 1902, of general paralysis.

Doctor Morgan was a man in whom the experiences of army life and the emergency calls and accidents of the saw mills and lumber camps had developed a coolness, self-reliance and judgment that made him much in demand, not only in his private practice but as a consultant as well. He was a constant student and was contemplating additional post-graduate work when his failing health compelled him to lay aside his work.

He was a man of few words and fewer pretensions, hating and ridiculing anything that savored in the least of unprofessional conduct, and while to many he may have seemed even blunt, he had almost a woman's tenderness and sympathy for those who were really suffering from pain and sickness.

A conscientious physician, his life was a sacrifice to professional duty, one of the victims of the subtle poisons whose dangers are only realized by the physician, and a man entitled to the respect and honor of the profession in Michigan.

The Journal of the Michigan State Medical Society

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A. P. BIDDLE, M. D., Detroit.....Editor | S. EDWARD SANDERSON, M.D., Detroit, Bus. Mgr.

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Address of Secretary

Editorial

THE NEW GERMAN REQUIREMENTS FOR THE RIGHT TO PRACTICE MEDICINE.

Very little has been said in this country about the new German regulations for medical study, yet these are interesting in many respects. Within the last fifteen years there has been much discussion of this problem in Germany. There the discussion is kept within narrower lines than similar discussions are in this country. It is not necessary to compromise with sects nor to follow the inclinations of politicians. The competition of various schools and the wishes of individual teachers are also less potent than in this country. The new regulation went into effect on the 20th of May, 1901, and applies to all who take examinations after the 1st of October, 1908. The traditional German academic freedom does not suffer. The courses of study are laid down in the most general way; only two examinations are required. The examiners are University teachers who examine in their own branches, though not necessarily their own students. The difference between the non-teaching examiners, as in our state examining bodies, and the examiners from foreign schools, as in England, is noteworthy. The first examination is known as the preliminary medical examination. Candidates must present the certificate of a *gymnasium* or a *real-gymnasium* and must have spent at least five semesters in medical study in one or more of the universities. However, the examination may be taken in the last six weeks of the fifth semester, and the half year of military service under arms may also be taken in the five semesters. Prac-

tically the only requirements laid down beforehand are these: A candidate must show that he has spent two semesters in the dissecting room, one semester in the practical study of microscopic anatomy, and has taken practical courses in physiology and chemistry. The examination includes anatomy, physiology, physics, chemistry, zoology, and botany. Two days are devoted to the anatomical examination, one day to that in physiology, and the other four subjects must be passed off in one day. The results are noted by the terms "Very good," "Good," "Sufficient," "Insufficient," and "Bad," and the candidate must obtain at least "Sufficient" in all six branches. If "Insufficient" or "Bad" in any branch, he must take another examination at a time determined by the examiners, varying from two months to one year. The fees for this examination amount to ninety marks, or about \$22.50 in our money. The second or medical examination cannot be taken until at least ten semesters, including the half year of military service, have been passed. At least four semesters, not including military service, must be taken after passing the preliminary examination. The candidate must show that he has spent at least two semesters in the practical work of the medical, surgical and obstetric clinics; he must have delivered four obstetric cases in the presence of a teacher or assistant physician; must have spent one semester in the eye clinic, the medical polyclinic, the clinic or polyclinic for children's diseases, the psychiatric clinic and the special clinics for diseases of the throat, nose, ear, skin and venereal; must have taken a practical course in vaccination and acquired the technique and ability necessary in that operation and heard lectures on topographic anatomy, pharm-

cology and legal medicine. The examination includes general pathology and pathologic anatomy, two days; medicine and surgery, each seven days; obstetrics and gynecology, five days; ophthalmology, three days; psychiatry and hygiene, each one day. In the various parts it must be shown that the candidate has retained as much knowledge of anatomy and physiology as is necessary in practice. It would take too much room to detail the methods of each examination. A brief outline of the medical ordeal may suffice. This includes two parts. The first part is conducted by two examiners, in the medical wards of a large hospital, a university clinic or a polyclinic. The candidate has to examine two patients on consecutive days before the examiners, and write the anamnesis, diagnosis and prognosis and plan of treatment in a protocol to be signed by an examiner. A critical report on the case is to be written by the candidate at home on the same day and given to the examiner the following morning. In the next four days the two patients are to be visited at least once each day, and the course of the disease noted in the report returned by the examiner. If the patient dies before the end of the four days a critical review is to be made with reference to the results of the autopsy. Should the patient leave before the time is up, the examiner may furnish another. Each examiner must accompany the candidate at least three times on his visit, examine the report and cause necessary corrections to be made. During the visits the candidate must demonstrate on other patients his ability in the diagnosis and prognosis of internal disease, and particularly diseases of children, and also his familiarity with therapeutics. The knowledge necessary

for the diagnosis and treatment of diseases of the nose and throat and the use of the laryngoscope must also be demonstrated. In the second part of the examination the candidate, in the presence of an examiner, must answer in writing some questions in the art of prescribing and demonstrate orally that his knowledge of pharmacology and toxicology is sufficient for the needs of a practicing physician. The subject of bacteriology is considered in the examination on hygiene, where also a test is made of the candidate's knowledge of vaccination. In the various examinations the history of the subjects and possible relations to legal medicine must not be neglected. Attention is also to be paid to the candidate's knowledge of medical terms. Students of medicine and also teachers of medicine in any German university are admitted to some of the examinations. The same patient is not to be given to several candidates. The results of the examinations are expressed in the same terms as mentioned before, and if one of two examiners gives the mark "Insufficient" or "Bad," his voice decides. In the latter case the examination must be taken again. The fees for this examination amount to two hundred marks, or fifty dollars. After this examination the candidate has to spend a year in a hospital. The institution of this "practical year" is the most radical advance that has been made recently in German education, and its working out will be followed with much interest. A university clinic, a university polyclinic or a hospital specially designated may be selected, and the candidate spends a year under the supervision and instruction of the director, at least a third of a year being devoted to internal diseases. The candidate is obliged to "increase his practical

knowledge and ability and to show a sufficient understanding of the tasks and duties of the medical profession." If he does not convince the authorities that he has acquired the necessary knowledge, he is obliged to continue for a period to be decided by the latter. After satisfactorily finishing his practical year, furnishing testimonials of good moral character and proving that he has attended at least two public vaccination and revaccination periods, the candidate is given the license to practice medicine in any part of the German empire.

The degree of M. D. is entirely unnecessary, but will, of course, be taken as heretofore by all who wish to follow university careers and by those who have time and money to devote to that purpose.

GEORGE DOCK.

MEMBERS OF THE HOUSE OF DELEGATES OF THE STATE SOCIETY.

Pursuant to the By-Laws of the State Society each County Society will elect at the first meeting after January 1st a delegate or delegates in the proportion of one for every fifty members or major fraction thereof to represent the County Society at the next Annual Meeting of the State Society, each County Society being entitled to at least one delegate.

As a great deal of responsibility will devolve upon this House of Delegates, it is urged upon the members of the County Society to be present at their annual Meeting and to select from their members the best material possible. There is nothing in the By-Laws which forbids an officer of a County Society from serving as a delegate, if the Society so chooses.

Upon the House of Delegates will be thrown the responsibility of reviewing the work of its officers and its Council during the year which will have passed; of electing their successors; and of performing the work usually done by the Society in General Session. That it may familiarize itself thoroughly with its duties, that its members may become acquainted with each other, and that its work may not interfere with the other work of the Society, it will meet on the day previous to the Annual Meeting.

RECIPROCITY AMONG THE BRANCH COUNTY SOCIETIES.

As soon as a County Society is chartered it becomes a branch of the State Society. Therefore all branches of the State Society are integral parts of the same, and a member of one branch is privileged to accept all the advantages which any other branch County Society may offer him. A physician in good standing in any branch County Society, visiting in any other county, is expected to attend the meetings of the said County Society and to take part in the scientific and social work of the same at his pleasure.

County Society News.

The Secretary of the State Society is ready to furnish the County Societies with copies of the constitution and by-laws for adoption by the County Societies, and with blank applications for membership upon request.

The following program of the January meeting of the Union Medical Society and the Montcalm County Medical Society

shows that there is a vast amount of enthusiasm and energy in that part of the State being devoted to bringing about large and interesting meetings. Other counties should follow in their footsteps.

10:00 A. M.

- Calling to order by the President, John Avery.
- 1. Clinic.
 - 2. Business pertaining to the Union Medical Society of Northern Michigan.
 - 3. Business Pertaining to the Montcalm Co. Medical Society.
 - 4. President's Address, John Avery, Greenville.
 - 5. Paper—Intracapsular Fracture of the Neck of the Femur.
A. W. Nichols, Greenville.
Discussion—Led by L. S. Griswold, Big Rapids.
 - 6. Pneumonia—
A Symposium.
(a) Etiology, A. E. Savage, Gowen.
(b) Diagnosis, A. L. Corey, Stanton.
(c) Treatment, D. K. Black, Greenville.
 - 7. Paper—Up-to-Date Therapeutics.
W. P. Gamber, Stanton.
Discussion—Led by W. H. Lester, Greenville.

- 8. Paper—Antiseptics in Obstetric Practice.
N. E. Bachman, Stanton.
Discussion—Led by A. P. Culbertson, Vickeryville.
- 9. Paper—Antiphlogistine.
A. C. Huebner, Blanchard.
Discussion—Led by D. C. Bell, McBride.
- 10. Medical Education Abroad.
Richard R. Smith, Grand Rapids.
- 11. Election of officers and miscellaneous business.
- 12. Adjournment.

CALHOUN COUNTY MEDICAL SOCIETY.

At the annual meeting, held at Marshall, Dec. 9th, Dr. A. W. Alvord, Battle Creek, late President of the State Society, was unanimously elected delegate to the State Society for 1903.

The Secretary reports 64 affiliated members and one honorary member.

Report of Examinations for Licenses to Practice Medicine.

Michigan State Board of Registration in Medicine; report of examination held at Lansing, October 14th-17th, 1902; number of subjects examined in, 19; total number of questions, 190; percentage required to pass, 75; examination partly oral and partly written; total number examined, 14; number passed, 8; number failed, 6.

The following applicants passed. A list of unsuccessful applicants, indicated by number follows, the list of the successful candidate.

Number of Applicant	School of Practice	COLLEGE	Year Graduated	Per Cent	REMARKS
1	R	Medical Dept. University of Nebraska.....	'95	79.63	Passed
2	R	Medical College, State of Carolina	'84	89.	Passed
3	R	McGill University, Montreal	'02	86.73	Passed
4	R	Toronto University	'02	82.63	Passed
5	R	Baltimore Medical College, Baltimore, Md.....	'02	82.21	Passed
6	R	Undergraduate		89.89	Passed
7	R	Toledo Medical College, Toledo, O.....	'01	79.52	Passed
8	R	Undergraduate		76.68	Passed
9		Undergraduate		29.52	Failed
10	R	Independent Medical College.....	'96	21.42	Failed
11	E	Independent Medical College.....	'99	46.73	Failed
12		Undergraduate		45.37	Failed
13	R	Undergraduate		66.42	Failed
14	R	Jenner Medical College, Chicago (Student).....		72.73	Failed

Communications.

COMMITTEE TO PETITION THE LEGISLATURE FOR AN APPROPRIATION FOR THE ESTABLISHMENT OF A PROPERLY EQUIPPED SANATORIUM FOR THE TREATMENT OF THE EARLY STAGES OF TUBERCULOSIS.

HERBERT M. KING, Grand Rapids, Chairman.

LYMAN W. BLISS, Saginaw.

CHARLES G. JENNINGS, Detroit.

VICTOR C. VAUGHAN, Ann Arbor.

HENRY B. BAKER, Lansing.

Lansing, Mich., Dec. 6, 1902.

The Editor:

Two years ago the Michigan State Medical Society appointed a committee to labor for the creation of a State Sanatorium for Consumptives; and a bill for that purpose was before the last legislature. At the last meeting of the State Medical Society the committee reported, were continued, and have since had meetings, discussed the most important needs, and outlined a plan of further action. At several sessions of the legislature the State Board of Health has had a bill for a similar purpose. At the last session its bill was introduced in the House and the State Medical Society's bill was introduced in the Senate. At the coming session it is expected that there will be only one bill, that of the State Society.

A sanatorium for consumptives is needed for the best protection of the public health of all classes of people, but it is especially needed for the consumptive poor. If a poor man or woman gets consumption, he or she is likely to have to work constantly, and is not able to have the nourishing food which is essential for a cure of the disease; neither is the patient able to have the constant exposure day and night in pure, fresh air in a properly constructed sanatorium which is now believed to be an essential part of the treatment for the cure of consumption. The contraction of consumption by a person in moderate financial circumstances now frequently is equivalent to a sentence of death in about two years. On the other hand, the experience in the sanatoria in Massachusetts and other states and countries proves that under such proper conditions very many consumptives, if taken in the early stages, recover their good health and again become bread-winners and producers of wealth to their families and to the state.

Again, a State Sanatorium for consumptives is needed where tuberculous patients may go and not only be scientifically and successfully treated, but be taught how this "great white plague" is

spread, and the best method for its restriction and prevention. Tuberculosis has caused more deaths in Michigan than any other disease, and its spread cannot be stopped until the consumptives themselves are instructed how to restrict it; yet with their coöperation it can be restricted and prevented until it is entirely wiped out. A State Sanatorium for consumptives is the most desirable and economical way of wiping out this disease, by curing incipient cases and by educating all, cured and not cured, how to care for tubercular sputum, thereby lessening the danger of the spread of the disease to others.

Please use your influence with the representative of your district and your State senator.

Very respectfully,

HENRY B. BAKER,

Member of the Committee.

[The above appeal is directed through the JOURNAL to every member of the Michigan State Medical Society.—Editor.]

AN ACT TO ESTABLISH A FOREIGN SERVICE MEDICAL CORPS IN THE MEDICAL DEPARTMENT OF THE ARMY OF THE UNITED STATES.

We are in receipt from Major Henry D. Thomason, Surgeon, U. S. Vols., a Michigan Vol. Medical Officer serving in the Philippines, of a draft for proposed national medical legislation establishing the above Foreign Service Medical Corps.

PURPOSE OF THE BILL.

The purpose of this bill is to establish a permanent Medical Corps similar to the British East Indian Medical Service, whose duty it will be to serve the military and civil services of the United States in those countries which, while under the United States Government, are separated as to their people and country from the United States proper. It is felt that properly qualified medical men will not come in sufficient numbers to the tropics to enable the officials and other civil employees of the Government to obtain that expert medical attention which they would receive in the United States, unless incentive is offered them. That men, who have not devoted time and study to tropical surgery and medicine, cannot attain to that proficiency, which will be given by those who are specially trained for this work.

Men experienced as medical officers are accustomed to sustain discipline and render loyal allegiance when acting under the orders of superiors.

The provisions of this measure at once places a body of men trained in medical military tropical service at the command of the United States to be used either by the civil or military authorities as the necessities may require.

That when serving under the authority of the civil governments they must be subject to and act under civil law and civil superiors.

That with a fixed tenure of office, and provi-

sion for old age, a better quality of medical service may be had for less cost.

That these men are needed particularly in the care of the Constabulary, and other native forces, and in the management of epidemic disease falling under the jurisdiction of civil governments, as well as to replace in the Army those Volunteer Surgeons who are soon to be discharged by expiration of law, and the Contract Surgeons who are now employed in the tropics.

It shall be constituted as follows:

One Assistant Surgeon General with the rank of Colonel, four Deputy Surgeons General with the rank of Lt. Colonel, forty Surgeons with the rank of Major. One hundred Assistant Surgeons, with the rank of Captain and First Lieutenant, mounted, as hereinafter provided. The pay and allowances of these officers to be the same as for officers of like grades in the United States Army serving in insular possessions.

After the original vacancies are filled as hereinafter provided, promotion by seniority shall apply in all grades.

In order to establish and sustain the high standard intended for this corps, it is deemed essential it shall be an integral part of the Medical Department of the Army. Made subject to the same moral, physical, and professional attainment, and the same examination for promotion and entrance, at the same time working no injustice to this body, as promotion in each is intended to be separate and distinct.

When, in the opinion of the Secretary of War, necessity therefor exists, the medical officers of the military services of the United States shall act under the direction of the Civil Government in the controlling of epidemic diseases, and such other public health functions as the necessities of the case demand.

When serving under direction of Civil Governments the duties of medical officers shall be as follows: To render medical and surgical services to the civil officials and their families, and such others as the civil authorities may determine are entitled to this service, and to perform such public health duties as may be required. When detailed to serve under the direction of the U. S. civil authorities, medical officers shall, for the period thus detailed, be removed from all military jurisdiction, and subject only to the orders of the proper civil authorities and the Secretary of War.

The duties of the officers of the medical department of the military services of the United States shall be also as follows:

1st. The direction of measures for the prevention of disease among the troops of the army, and of sanitary faults in location, construction and management of posts and camps.

2d. The medical and surgical care of diseased and injured officers and soldiers of the Army of the United States; the physical examination of all officers and soldiers entering and leaving the United States Army.

3d. The care of and accountability for all transportation pertaining to the movement of men and supplies of the medical department and of sick and injured of the army.

4th. The preparation and preservation of the records of transactions taking place under the three preceding paragraphs.

5th. It shall be the duty of the senior officer of the (army) corps, division, brigade, (territorial division or department), in which an actual outbreak of disease shall have arisen, to at once take steps and investigate and determine the reason therefor.

Book Reviews.

A COMPEND OF HUMAN PHYSIOLOGY. Especially adapted for the use of medical students. By Albert P. Brubaker, A. M., M. D., adjunct professor of physiology and hygiene in the Jefferson Medical College; professor of physiology in the Pennsylvania College of Dental Surgery; lecturer on anatomy and physiology in the Drexel Institute of Art, Science and Industry; fellow of the College of Physicians of Philadelphia. Eleventh edition, revised and enlarged, with illustrations and a table of physiologic constants. P. Blakiston's Son & Co., Philadelphia.

This is as thoroughly complete as a book of this kind can be. It is well-written, concise and of unquestioned merit to the reader desiring to make a rapid review of physiology. From the standpoint of student as well as teacher, however, we cannot refrain from deprecating the use, by students, of such synoptic books, especially when we consider the number of good text-books which they too often supplant.

THE PHYSICIANS' VISITING LIST FOR 1903. Price \$1.00 net. P. Blakiston's Son & Co., Philadelphia.

This is a neat little book containing, in addition to the usual pages for recording daily visits, obstetrical engagements, deaths, vaccinations and addresses of patients, a number of tables which are not infrequently of use to physicians; a few pages on incompatibility, a list of poisons and antidotes, a dose-table and a short dissertation on Asphyxia and Apnoea, help make the book a convenient thing to have in one's pocket.

Books Received.

Transactions of the Indiana State Medical Society, 1902; fifty-third annual session, held in Evansville, Indiana, May 22 and 23, 1902.

Transactions of the Florida Medical Association, 1902.

Transactions of the West Virginia State Medical Association, 1902.

Transactions of the Iowa State Medical Society, 1902.

Transactions of the Medical Society of New Jersey, 1902.

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Original Articles

MOSQUITOES AND MALARIA; THE PRESENT KNOWLEDGE OF THEIR RELATIONS, WITH SOME OBSERVATIONS IN ANN ARBOR AND VICINITY.*

GEORGE DOCK,
Ann Arbor.

It is hardly five years since Ross first demonstrated the true role of the mosquito in the spread of malaria. Since then, a vast amount of work has been done; much has been learned, not only about malaria, but also about mosquitoes; but we are still ignorant of many details, some of them important, and new worlds of knowledge have been discovered that call for explorers. We know that certain mosquitoes, belonging to the genus anopheles, act as hosts for the malarial para-

site. Many species of the genus are known to be capable of serving as hosts, and all the known forms of malarial parasites may grow in a single species. It was thought in an early stage of the investigation that species of culex could act as hosts, but these observations are now considered erroneous. Of the other genera, psorophora has been claimed amenable by Moore, of Galveston, but Dönitz denies this. We must remember that only a few species (fourteen of culex out of over one hundred) have been examined, and a great deal of work must be done before we can be sure of the species concerned in malaria. Some idea of the magnitude of the task can be gathered from the fact that more than two hundred species of mosquito remain to be investigated. Since many of these other species are already known to be the occasional hosts of other important parasites, such as those of yellow fever and filaria, and that others may harbor still other parasites, it is obvious that the task is as inviting as it is extensive and difficult. The question whether

*Read before the Washtenaw County Medical Society, Dec. 17, 1902.

malaria is acquired in any other method than that now under consideration is not thought profitable for discussion. Observations are needed, but at present we have none that weaken the mosquito doctrine.

Grassi very early supposed that the distribution of malaria and anopheles coincided, a view that still seems to be held by some who have not followed the work since Grassi's suggestion was made. It is now known that the belief is far from true, and just as before the mosquito doctrine, so now, the only safe test for the malarial character of a locality is that of exposing human beings in it. Without such a test, we may say that if anopheles are already present, and especially in considerable numbers, malaria may be there, or if introduced, even in a latent form, it may spread. If anopheles are really absent, according to our present knowledge, malaria cannot develop or spread. To put the matter in another way, wherever malaria is endemic there are anopheles, but there may be anopheles without malaria. The mosquitoes may be imported at any time, by rail or ship especially, or they may be supposed, on the ground of imperfect search, to be absent when they are really present. So we can understand the value of accurate knowledge of the mosquito-fauna of any locality.

Coming to a more particular study of anopheles, we find that this genus, known since 1818, now includes at least 50 species. The identification of many of these is very difficult, so much so that statements as to geographic distribution, infection, etc., are of no value unless positive and based on identification by experts. The assertion so often made as to the total absence of mosquitoes in given localities has been shown over and over again to be erroneous. Still, there are

places, like Barbadoes, where anopheles have not yet been found, though carefully looked for by experienced observers.

Quite recently, F. V. Theobald, of the British Museum, the greatest authority on mosquitoes, has proposed a subdivision of anopheles into eight genera, a proposal the fate of which must be followed with interest by all who try to keep abreast with current malaria literature; otherwise a well-known species, under its new name, may seem as novel as *stegomyia* was for *Culex fasciata* and its congeners, when it was first introduced as a generic term.

The eggs of anopheles are laid in water, usually not entirely stagnant, but protected from strong currents by grass or weeds, or in backwater or small bays. They may be laid and develop in standing water, as in holes in rocks, in tubs, cisterns or casual vessels like tin cans, if these are rained upon at times, or in fountains if playing. In about two days the larvæ are formed, and after about three weeks, during which many larvæ die, they grow into pupa, and in two to four days more, flies or full-grown mosquitoes. The length of the aquatic stage is about thirty days, but may be much less in warm weather. Cold weather inhibits the development, but does not kill the eggs, but different species perhaps vary much in respect to cold. *Culex* larvæ have been hatched out of water melted from ice in which they were frozen. Larvæ may hibernate beneath the ice in rivers. Drying usually kills eggs and larvæ, though if the drying is not complete, life may be preserved, or if the pupal stage is reached these may mature and flies form. When first developed, males and females are about equal in number, but the males seem not to live as long as the females and in natural conditions are

much less numerous. They do not seem to hibernate. Mosquitoes of both sexes live on vegetable juices, the male wholly so, though under unusual circumstances males may suck blood. The females suck blood, and this is a very important part of their life history, both for the insect and for the victims. The blood seems to be important, perhaps even essential to the preservation of the species, and during ovulation it seems necessary for the insect to suck blood about every two days, or about as often as eggs are deposited. Eggs may be laid without this, but though some observers hold the eggs so laid are viable, others believe that only on blood diet can perfect eggs be laid. Observation makes it certain the mosquito does not suck blood for food alone. Among anopheles, especially, it does not always fill itself with blood and fly away. Many observers have noticed that the sucking insect often first ejects feces and intestinal juice, and then blood once or many times, before filling up and leaving her victim. The relation between blood-sucking and fertilization is not peculiar to mosquitoes, but has been noticed in certain ticks, who live abstemiously before fertilization, but after that bite voraciously. The eggs are laid every few days, to the number of one to two hundred each time. Ficalbi has estimated that in one season, in Italy, one female mosquito will give rise to four generations, aggregating 200 millions of young ones. Kerschbaumer estimates that in Austria, also with four generations, the descendants number 31 millions. The idea that mosquitoes, including anopheles, bite only at night, or when the sun is low, is repeated with remarkable frequency, considering that it has often been denied and can easily be tested. They fly most at nightfall, and bite most then, but

they are likely to bite at any time, especially in the shade. I have often seen anopheles maculipennis bite in daytime in a shaded but light room in Ann Arbor, and have seen anopheles punctipennis bite savagely on the porch of the Country Club House in the middle of the afternoon. The insect bites most frequently and most persistently in hot weather. The female anopheles, as intimated above, does not die after biting and depositing eggs. She repeats both operations at intervals of a few days. How long the individual flies can live is difficult to say. In captivity they have been kept alive for fifteen days (in warm weather; in winter very much longer; Bancroft kept a species of culex alive five months). When it was thought that certain species of mosquito always carried malarial parasites, it was necessary to suppose the parasites were also able to live somewhere else than in the mosquito and the human body. Other warm or cold-blooded animals, plants and the soil, were all considered possible. This idea is abandoned almost entirely, because it is not necessary with our present knowledge. All the facts known are against the theory, but it is too early to consider it wholly erroneous.

The mosquito becomes infected by sucking the blood of a human being with malaria in certain stages of the development of the parasites. These stages do not belong to the essential part of the human or asexual cycle of the animal's life, though they are often found in blood recently drawn in cases of malaria. What determines their formation we cannot tell. We know that the sexual forms of the remittent fevers, the crescents, grow in the human being without apparent reference to the other cycle, being present sometimes long after the essentially path-

ogenic phases disappear. In quartan and tertian fevers the sexual forms are not so easy to follow up in the blood, and their life history is still partly unknown. We may assume that in some cases the blood contains no sexual forms, but if these are in the blood the sucking mosquito is likely to get some, as it takes up to 2 mg. of blood, an amount equal to its own weight. A malarial subject may have as many as 300 parasites per cmm, without symptoms, one with symptoms many thousands, so that the chances of obtaining parasites are good in many cases. Ruge has recently (*Centralblatt für Bakt., etc., XXXII. Bd. Originale. No. 11, 1902*) made a most interesting attempt at counting the sexual forms in the blood of fever patients, and in that way estimating the chances of infection. The work, however, is of such difficulty that much more must be done before we can draw useful conclusions. In the meantime we have a good deal of experimental evidence showing that not all females, even of amenable species, can be infected, the proportion varying widely, even in insects that sucked repeatedly from infected persons.

The mechanism of sucking deserves a brief consideration, as well as the anatomy of the proboscis. This latter is a very complex organ, made up of seven distinct pieces. Four of them, the mandibles and the first pair of maxillae, are piercing instruments. When in action the six upper pieces form a tube, through which the blood (or in other cases vegetable juice) is drawn up by the suctorial pharynx. Before this, however, the saliva is ejected through the hypopharynx, one of the parts of the proboscis, which contains a tube of extreme minuteness, continuous with the duct of the salivary

gland. So the saliva and the blood do not come in contact in the proboscis, and the difficulty that some have in understanding how the insect can inject its saliva while sucking blood is based on ignorance of the real conditions. In fact, mosquitoes often inject saliva without drawing blood, sometimes making several such punctures without sucking. The primary function of the saliva has been much discussed, but cannot yet be satisfactorily explained. It would seem intended not so much to prevent coagulation of the blood as for causing a better flow by bringing on local swelling, such as takes place in many persons when bitten.

The sexual forms of the parasites take on their functions immediately on entering the so-called stomach (the mid-intestine) of the mosquito. According to Ross, whose description I am now following, the male element or male "gametocyte," after breaking through its enclosing corpuscle, throws out the well-known flagella, now called "microgametes," the spermatozoal nature of which was first demonstrated by MacCallum.

The female gametocyte forms an ovum or "macrogamete." Breaking away from the parent cell, the flagella, to use the more familiar term, travel through the liquor sanguinis in the stomach of the mosquito in search of a macrogamete. Finding one, the microgamete enters the cell and unites with its nucleus. This union produces what is known as the "zygote," which now becomes motile and travels towards the wall of the stomach. If the mosquito belongs to a species inhospitable to the parasite, the zygote dies; if the reverse, the zygote penetrates the wall and fastens itself on or just under the outer muscular coat, where it becomes motionless and grows rapidly in

size. The number of zygotes varies from a few to a hundred or more. After about a week it may become as much as 60 micromillimeter in diameter, or about eight times its original diameter. A capsule forms, and the interior divides into eight to twelve "meres." Each "mere" finally becomes a spherical "blastophore," bearing on its surface many spindle-shaped or filamentous "blasts," and finally, as the zygote reaches maturity, the blastophores disappear, leaving the capsule packed with thousands of blasts. The capsule bursts and the blasts lie in the body cavity. Dried and stained, the blasts are 12 to 16 micromillimeter long, with a central nucleus and tapering ends. They are motionless in reagents such as salt solution, but can hardly be so in their natural surroundings, for they soon reach all parts of the host, pierce the capsule of the salivary glands, enter the salivary cells, and finally the duct. From there they pass through the middle stylet, tongue, or hypopharynx, into the tissues and blood of the host bitten by the mosquito, and, entering red blood corpuscles, begin the asexual cycle. It is hardly possible mosquitoes can cause infection by direct transfer of blood from person to person. Numerous experiments with hypodermic needles, from the time of Gerhard's early successful experiment, show that this is possible with even small quantities of blood, but the amount that might adhere to the mosquito's proboscis seems too small. All the steps of these complicated operations have been actually seen and preparations of all stages have been widely demonstrated. A beautiful demonstration was made by Manson at the meeting of the British Medical Association in 1901, which the writer was fortunate enough to see.

As remarked above, not every individual among amenable species can be readily infected experimentally, the failures being probably due, according to Ross, to peculiarities in the steps of the experiment or of fertilization. An infected mosquito can infect only a limited number of people. Besides warm-blooded animals, mosquitoes suck the blood of others, such as turtles, fish, the chrysalides of butterflies, small diptera, cicada and its pupa, etc. These habits may be of great epidemiologic importance, for if there are as yet unknown stages of the malarial parasite, they may live in such animals. It is pretty well established that the malarial parasites are not transmitted to the eggs, as was supposed at one time.

At present one can only speculate as to the primary origin of the parasites in man and mosquitoes. Sambon suggests that these are specialized parasites like *pediculus capitis*, *taenia saginata*, etc. Though they must have originated in other forms, those now found in man probably developed, according to the same author, from earlier species already parasitic in other hosts, such as birds and bats, that nest under our roofs; and the parasites have been transmitted to man by the mosquitoes that, like the cockroach and housefly, have associated themselves with man. The disappearance of malaria from certain localities where mosquitoes and other factors seem favorable, might be connected, as Sambon says, with the extinction of some animal or plant that may have been a necessary link in the life history. Theobald suggests that the disappearance of ague from England may have been due to the fact that *Anopheles maculipennis* has lost the habit of blood-sucking. But, aside from the question as to the complete loss of that habit, the

disappearance of the disease in many other localities, as notably in Michigan, where *anopheles maculipennis* still sucks blood and where it is hardly possible the other factors have been eliminated, is more likely to be due to the former widespread use of quinine, as Christopher has suggested for other places.

An important factor in the mosquito stage of the parasite's growth is temperature. The cycle goes on best at about 25° - 30° C. and is then about fourteen days in duration. It can go on at an average temperature of 18° C. or with variations between 10° C. and 25° C. With the lower temperature the development is slower. The reappearance of spring infections—not relapses—can be explained by the revival of hibernating mosquitoes in the warm days, for the seasonal occurrence makes it unlikely such attacks are due to insects warmed sufficiently in houses. Still, the latter possibility can hardly be denied.

With this introduction, my observations on mosquitoes will doubtless seem less irrelevant than otherwise. I have for years made desultory notes on the insects here, but the rarity of malaria and the relative scarcity of mosquitoes prevented me from making systematic observations. When the soldiers returned from the South in 1898, with the possibility of setting up new foci of infection, I paid more attention to the matter. I found that *anopheles maculipennis* (often called *a. claviger*, or *a. quadrimaculatus*) could be found in scanty numbers in houses all the year round. This is one of the commonest mosquitoes of Europe and America, and the one on which Grassi, Bignami and Bastianelli made their convincing observations on the life-cycle of the malarial parasite. In the fall of 1901 Dr. Cowie and

I found these, sometimes with *Culex*, in five houses occupied by malarial patients, observed and reported (but not published) by Dr. N. A. Gates, of Dexter. In this small epidemic the source could not be found. Much work had been done on the railroad, in the vicinity, but we could not determine as to malaria in the construction gang. Our visit was made after a very cold change in the weather and we found no larvæ near the railroad, along the river, or around the houses, and no mosquitoes in the well-screened boarding cars.

The summer of 1902, as you are all aware, was remarkable no less for its weather than for the unusual development of mosquitoes. Even in the closely built up parts of the city the insects were so numerous as to make an evening out of doors a most painful experience. Much building, the tearing up of streets and changing of grades, with unusually frequent rains, formed innumerable breeding places for the pests. I spent a great deal of time, from the opening of spring, searching the most promising places for larvæ, but it was not until warm weather that these were numerous. This was doubtless due to the fact that the previous season was not a good one for mosquitoes; next spring should be much more favorable for finding larvæ, immediately after the ice melts.

The places examined most carefully were the shores of the Huron river from Foster's to Geddes, but getting as far on both sides of town as Dexter on the west (9 miles) and Ypsilanti on the east (8 miles); the valleys and ravines running back from the river valley; the banks, low places and swamps along Allen's Creek as it runs through the city; and various depressions where water stood

more or less all summer. I also examined many houses and yards in various parts of the city and vicinity in various directions. By carrying a killing bottle, some small vials and pill-boxes and a lens, I was always ready for the flies. On the search for larvæ I added a white dipper to my outfit.

Culex larvæ were found in almost every place where water stood, as in the ditches along certain streets, in low places everywhere, and often in the backwater of running streams. In general, *anopheles* larvæ do not grow in company with *culex*, being devoured by the latter, but with food in plenty, as it was in many places I examined, the two often live together. In the vicinity of larvæ breeding places *culex* flies were numerous, especially about sundown. I made no attempt at counting, or even capturing these, except in each place to get a few for determination of the species. In all cases this was *c. fatigans* (or *pungens*), the commonest of all mosquitoes. They could easily be caught even in midday, by sitting in the shade. In a few minutes the flies would settle and were often so tame the palps and wings could be examined with a lens.

For a long time after the plague began I found no *anopheles*. On August 2 I found the first, a female *anopheles punctipennis*, on the porch of the Washtenaw Country Club House, about 6 p. m. Next day I found two more of the same species in the same place. I had frequently examined the house, barn and woods for flies, and the brook for larvæ of this genus, without result. The brook is probably too swift in most parts, and too often disturbed in others, for the larvæ. After they began to appear, one or two specimens could nearly always be found, but the great majority of mosquitoes found

in the grounds of the Country Club were *culex*. I found that these settled in enormous numbers on the sheep grazing on the field. They did not seem to bite the animals in the daytime, nor would they readily leave the sheep to settle on people close to them. Perhaps the warmth of the animals' bodies attracted the flies. As in former years, *anopheles*, both *maculipennis* and *punctipennis*, appeared in my house from time to time this summer, the last one being seen in the middle of November. I found them only inside the house, usually in the same room. a dark one without water, but next to the kitchen, to which they had easy access, especially at night and in the early morning. The house is screened, but the doors are often left open and the insects could readily enter. Owing to the exposed situation of the house, at the end of a bluff, mosquitoes were not as numerous as about more sheltered houses, but in the worst part of the season *culex* flies could be found around the house, as around all the neighboring ones. I was never able to discover the breeding places of the *anopheles*, but cannot help thinking they were on the hill on the north side of the bluff, among small marshy holes and highgrass, where larvæ are hard to capture even if present.

In July and August a good many *anopheles*, mostly *punctipennis*, were found in the Zoological Laboratory, as I was shown by Professor H. B. Ward. Other places that I examined were free, but Professor Bigelow found in his house, on November 22, a female *punctipennis* and a male *culex*.

On account of the interesting finding of *culex* larvæ frozen in pitcher plants by Brakeley and Smith, of New Jersey, I examined many leaves of these plants

growing about one of the small lakes west of town, but could never find larvæ, eggs or other mosquito parts in the leaves. On December 7, 1902, I collected eight large leaves with ice in them. On melting the ice, I got many insects, mostly small beetles, whole and in part, but no larvæ, and none hatched out in a warm room in which the water was kept and partly changed for several days.

I take pleasure in expressing here my thanks to Dr. L. O. Howard, of Washington, who kindly confirmed my diagnosis of the species *maculipennis* and *punctipennis*. Without such authoritative determination I should not have felt justified in making this report.

Since anopheles exist in this locality and suck human blood, malaria can develop. In order to form an idea of the degree of danger, we must consider not only the existence of the proper kind of mosquitoes, but also their number and the possibility of obtaining parasites from human carriers. With reference to number, there is comparatively little recorded in exact figures in other places. With the greatest persistence I could rarely find half a dozen anopheles in a single expedition. Grassi, in a carriage ride of two hours in a malarial part of Italy, captured two hundred. In a malarial locality on the Susquehanna river, Bashore found that from 25 to 74 per cent of mosquitoes were anopheles, during the malarial season. After frost, with little intermittent fever, he found 16 per cent. From such comparisons it is clear that malarial carriers are relatively few here. This goes far to explain why it is that the soldiers returning from Cuba or the South, as well as occasional students with latent or active malaria, are not more dangerous as foci of disease.

My observations on malaria in Ann Arbor have been on relapses in imported cases, with one exception. After 1898 I made special efforts to hear of cases developing here and in other parts of Michigan, but so far have not heard of definite cases. Some of my correspondents have not yet answered, however, and if any one has such observations, they would seem well worth publishing. The only case of local malaria known to me is the following: E. H., 18 years, was admitted to the hospital August 27, 1901, for gonorrheal arthritis (shoulder and knee). The blood examination showed 4,900,000 red corpuscles, 9,676 leucocytes, and hemoglobin 75-80. No special examination was made for malarial parasites, as the malarial history was not considered at that time. Sept. 20, after the patient had been in bed for 24 days, he had a chill at 2:30 p. m. Before the chill, the temperature, which had ranged about 98.4° to 100° or 101° for three weeks, rose to $102^{\circ}+$. After the chill it reached 104.4° and then fell to normal at 5 a. m. next day with slight sweating in the decline. Tertian parasites were found in blood examined during the chill, in a single generation. A few parasites were found the next morning but these disappeared. No medicine was given for the paroxysm. The temperature ran between 98° and 99.5° until September 27, at 8 a. m., when it was 1° higher than at any time since the chill. At 11 segmenting parasites were found in the blood. At 12 the temperature reached 101.1° and then fell. No parasites were found after this.

The patient had lived in N. Main street near the mill-dam for three years; before that four miles northeast of town. He first had ague in 1900, while working in a printing office. He had not been in the

country or on the river. There were five tertian paroxysms with a relapse two or three weeks later. In July, 1900, he had a chill, and then no more until the one observed in the hospital. He said there had been mosquitoes in his house, but Dr. Cowie, on examining the house after the chill was noted, found none. The four other people in the house had not had malaria, and the patient did not know of exposure to another case.

The history is interesting and instructive in other ways than as proving a genuine antochthonous malaria. The short duration of the paroxysms is unusual for the time of year. The chief importance of the case in a clinical way is the emphasis it throws on the need of blood examinations in all possible cases of malaria, even in unlikely localities. With the gonorrheal history, and the repeated punctures made into the patient's joints, one might have suspected a septic paroxysm. A very brief examination showed a different cause.

In this connection a recent case simulating malaria is interesting. A few of these come under my observation every year. In the latest case, the patient had a continued fever of short duration, ending by lysis. It seemed possibly typhoid. On the second day after the temperature reached normal it rose again with a chill to 103.4° , and on the following days to 104.6° , 105.6° , 106.8° . The chill was severe, the rise of temperature rapid, the fall also rapid, to 98° or below. After nine days in the way described, the temperature followed a remittent course for a few days, but again became intermittent, and several times reached 107° . The single paroxysms closely simulated malarial attacks, but the time of acme varied rather more than in malaria, those of the first

four days being respectively 9 a. m., 3 p. m., 2 p. m., 7 p. m.; the chills 6 a. m., 2 p. m., 10 a. m., and 4 p. m. There was no obvious septic focus, but there was an old heart lesion, and this, with the peculiarities of the course, and a leucocytosis of 35,000, suggested sepsis as more likely than malaria. Examination of the blood showed an absence of parasites, and along with the leucocytosis, led to an early diagnosis of sepsis. The fatal end was therefore not as unexpected as it would have been under the alternative diagnosis.

A CASE OF ABSENCE OF THE RECTUM.

W. P. MANTON,
Detroit.

Cases of arrested development of the lower portion of the bowel are of such infrequent occurrence that the following instance is interesting from an embryological and surgical point of view:

THE DEVELOPMENT.

By the fifteenth day of embryonal life the caudal extremity of the arch enteron, or primitive intestine, becomes dilated as a blind pouch, into which the proximal end of the allantoise, or future bladder, opens. This cloacal chamber is, therefore, at first, the common receptacle for the excrements from both bowels and kidneys. (Fig. 1.) Toward the end of the fifth week, as the result of the invagination and rupture of the external layer of cells (ectoderm), together with perforation of the cell-layers of the contiguous portion of the cloaca (entoderm), an opening, the proctodaeum or primitive anus, is formed. Coincident with, or possibly slightly before these changes have taken place, the tissues be-

tween the bowel and the allantoise grow backward and divide the cloacal space into two parts, the anterior tube representing



FIG. 1.

the uro-genital sinus or, in the male, the future prostatic and membranous urethra, while the posterior tube becomes the rectum. It is evident that arrest of development in any of these parts either failure in formation of the proctodaeal opening or of the partitioning of the cloacal space, will result in defects of most serious consequence to the child in its cerrene existence.

THE CASE.

M. M. C., male, was born in the Emergency Department, Womans Hospital and Infants Home, October 21, 1901. He was a vigorous, well-nourished and developed child, weighed $8\frac{3}{4}$ pounds, and was without spot or blemish save for the non-existence of an anal opening, the median raphe being devoid of pit or pucker. On the day following birth an attempt was made to reach the bowel by a dissection through the anal region, but this proving unsuccessful I did a left inguinal colotomy.

On Oct. 23, the child having up to this time excreted no urine, a catheter was introduced through the penile urethra and upward for 6 inches into what was then supposed to be a dilated ureter. No urine was obtained, but five hours later the napkin was found wet and urine was thereafter passed through the natural channel. The secretion was often high colored and contained much uric acid. As the result of the unremitting care and watchfulness of the senior house physician, Dr. Mitchell*, the child lived and for a time appeared to thrive, but later, in spite of the ingestion of considerable quantities of breast milk, it gradually lost in weight and by the end of the first week had dropped to seven pounds. The bowels continued to move naturally through the artificial anus until December 15, when fecal matter began to be passed through the urethra. As the amount of alvine discharge through this canal was consider-



FIG. 2.

able, the abdomen was again opened, at this time with the hope that the connection between bowel and bladder or urethra might be discovered, and the defect rem-

*I am indebted to Dr. Mitchell for careful notes of the case.

edied. On account of the smallness of the pelvis, however, nothing was found, and in order to prevent the contents of the bowel from further entering the urinary passages, the colon was divided below the artificial anus and the open ends of the

mally formed. In all probability the proc-todaeum had been imperfectly formed during the fifth week of life, the cloaca had been partially divided by a septum, giving rise to a portion of the urethra, and then the recto-anal opening, having again

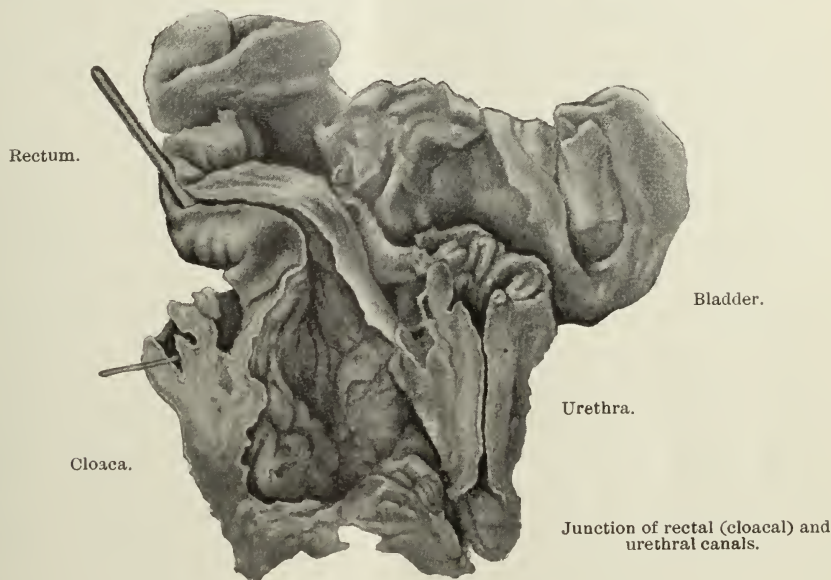


FIG. 2.

cut bowel carefully closed with fine silk. Evacuations continued through the inguinal opening and clear urine was passed by the urethra, but the child gradually weakened and died December 20, five days after operation.

THE POST-MORTEM CONDITION.

The autopsy, made by Dr. P. M. Hickey, revealed little beyond a moderate peritonitis with exudate gluing the intestines. On opening the lower, resected portion of the rectum and the bladder, it was found that the intestine had remained in the same condition as it was during the second week of development, that is, the cloacal pouch was still embryonal in character, and received the abdominal end of the bladder (allantoise), the external portion of the urethra having been nor-

closed, all indications of its presence had become obliterated.

It is obvious from the conditions present that no surgical operation could have remedied the congenital defect, and that the child must have soon succumbed to infection of the bladder and kidneys had the attempted relief been omitted.

32 Adams Avenue West.

MALNUTRITION IN INFANTS.

CHAS. DOUGLAS,
Detroit.

Gould, in his large dictionary, defines the word "Malnutrition" as "imperfect nutrition or sustenance, due to imperfect assimilation of food." If Dr. Gould were

a peditritian rather than an oculist, he would have enlarged this definition to include cases of improper feeding—those whose food does not contain the proper elements of nutrition, or those elements in proper proportion for perfect digestion, and consequently the child must be improperly nourished. In the practice of the regular physician, this latter condition is the one with which he has to contend most frequently. The result in either condition is that the infant is pale, small and delicate, and likely to die from digestive disturbances during the summer months, or, if surviving the summer, with some epidemic disease.

Most infants, when born, are supplied with sufficient digestive glands to digest or assimilate, or turn into healthy tissues, all foods supplied by healthy human milk. We say *healthy* human milk, because much of this secretion is not in such proper proportion as to secure perfect digestion and consequent healthy tissue formation. Without such healthy tissue formation in proper quantity, the result must be a child deficient in size, color and consistence—in other words, a mal-nourished one.

Human milk is a composite substance made up of five elements, as follows. In one hundred parts, there are:

Fat—4 parts.

Sugar—7 parts.

Proteid— $1\frac{1}{2}$ parts.

Mineral salts—0.28 parts.

Water—about $87\frac{1}{2}$ parts.

As the first three items are food elements, they are the only ones for which nature has to provide secretions with which to digest them, thereby converting these items into heat units for the warmth of the infant, and also into all living tis-

ues required in the development and growth of the child.

To perform these two separate functions, the digestive fluid must be a complex substance made or secreted from the blood, by innumerable glands placed, or opening, in the mucous membrane of the mouth, stomach and bowels. It is apparent and also proven, that these glands, placed in different positions and also made of different structures, do not secrete the same chemical fluids, but on the contrary, each set secretes a fluid capable of digesting only a particular element in the food. The amount of each secretion is governed by the number of glands devoted to such secretion, and these secretions of the different glands are not interchangeable. Thus the glands capable of digesting proteid, cannot digest sugar or fat; and those devoted to the digestion of sugar or fat cannot digest proteid. The same law follows all through the digestive tract, so that where the proportions in the elements of the food are not properly adjusted to the capacity of the different sets of digestive glands, fermentation with uncomfortable and imperfect digestive results are sure to follow, causing vomiting, colic, or diarrhea; and in time a pale, illy-nourished child, deficient in size, health and strength. Under these conditions, malnutrition is unavoidable.

Nature is very elastic and accommodat-ing in her plans, and has so constructed the digestive canal that ordinary temporary errors in dietary are overcome by the extraordinary efforts of the particular glands called upon then to correct these errors. This is continually seen where too rapid advances are made in feeding any one element in the food. The glands imposed upon will be stimulated to extra effort and they will continue to draw ex-

tra blood to supply their demands until such time as this extra rush of blood becomes so great as to equal an inflammatory action, and the result is a gastritis, duodenitis or general enteritis according to the particular element which has been unduly increased.

During the time this error is being reached, the child will grow in weight unusually fast, if the other elements in the food are not deficient in quantity; but all this increased weight is lost in the above inflammatory explosion which cuts off all nourishment for a time. In most cases, excessive amount of one element in the food is accompanied by a decrease in the other elements and the result is unused digestive fluid and a corresponding loss in the tissues or heat which these deficient elements should supply. Either form of error results in an imperfectly balanced child—known as a case of “malnutrition.”

It is evident that a proper adjustment of the food elements to the digestive power of the different glands is the only rational and successful way of avoiding these inflammatory errors above cited. These errors of “malnutrition” occur mostly in infants during the first year; many also occur in the varied dietary of the second year; and a few appear in the puny, small, pale children over two years old.

While it may be, and is at times, difficult to read correctly the errors committed in feeding a varied dietary to infants after weaning, there should be much less difficulty in reading the errors committed during the first year while the infant is nursing or being hand fed. This, of course, is due to the simpler diet needed for the infant's growth, heat and development during the first year.

In order to obtain a simple mathematical view of this subject, let us look at the nursing situation of the ordinary healthy infant at three periods:

1. At three months.
2. At six months.
3. At nine months.

As we have seen above, human milk contains only three food elements, fat, sugar and proteid, the rest being mineral salts and water, which are not changed by digestion, but enter into the formation of the infant in their natural conditions.

These three food elements make just one-eighth of the bulk of human milk, or $12\frac{1}{2}$ parts in the hundred. An average infant, three months old, nurses about thirty ounces of milk daily. One-eighth of this is $3\frac{3}{4}$ ounces—the actual amount of food in the milk consumed each day. Three and three-fourths ounces equals 1800 grains. From this we see that a three-months-old nursing infant consumes at each meal, when nursed at three-hour intervals, in nutritional elements of—

Fat—72 grains.

Sugar—126 grains.

Proteid—27 grains.

A six-months-old child consumes 36 ounces of mother's milk. One-eighth of this is $4\frac{1}{2}$ ounces, the actual amount of food consumed each day. This amount of food in meals would show this child receiving every three hours in nutritional elements of—

Fat—87 grains.

Sugar—150 grains.

Proteid—33 grains.

An infant nine months old consumes about 42 ounces of mother's milk daily, representing $5\frac{1}{4}$ ounces of food. This amount in four-hour feedings would

show this child receiving in nutritional elements—

Fat—132 grains.

Sugar—236 grains.

Proteid—52 grains.

As the infant advances in age over three months, we find more glandular secretions added to the digestive fluid. This is evidenced generally by drooling when the salivary glands commence secreting that first element needed in the digestion of starchy foods of all kinds.

Careful feeding of properly prepared starchy foods from this date, three months, onward, shows by the stools how much of starch digestion nature provides for as the child grows older. A careful watching of these stool results will always guide the mother in increasing the food. A steady increase in these three elements, fat, sugar, and proteid, during the first three months, with starch gradually added to their number after this age is reached, should secure perfect development and an avoidance of those errors in nutrition which are always foretold by the odor, color, and consistence of the stools. Such errors, when continued long, are sure to end in more or less pronounced "malnutrition."

Having followed out Nature's plan, and thus seen her work in healthy nursing infants, let us look for a few moments at the contrasting work when the mother is unable to nurse her infant, and she is compelled to feed it. The only practical substitute we have for human milk is the milk of the cow. In it and in wheat, or any cereal, are contained all the elements of food with which we are supplied and all that nature has provided digestion for. True it is, that there are many varieties of these different elements in the eggs, meat, fish, fruits, roots and

cereals that we consume daily, but they are all represented by the three elements above named.

For the sake of comparison, we will feed cow's milk pure and see the difference in the amounts of these original elements the child is receiving. The thirty ounces of milk consumed by the three-months infant shows at each meal:

In human milk—

(Butter) Fat—72 grains.

Sugar—126 grains.

Cheese or proteid—27 grains.

In cow's milk—

(Butter) Fat—72 grains.

Sugar—72 grains.

Cheese or proteid 72 grains.

The six-months-old child consumes at each meal:

In human milk—

(Butter) Fat—87 grains.

Sugar—180 grains.

Cheese or proteid—33 grains.

In cow's milk—

(Butter) Fat—87 grains.

Sugar—87 grains.

Cheese or proteid—87 grains.

The nine-months-old child consumes at each meal:

In human milk—

(Butter) Fat—132 grains.

Sugar—236 grains.

Cheese proteid—52 grains.

In cow's milk—

(Butter) Fat—132 grains.

Sugar—132 grains.

Cheese proteid—132 grains.

As the original elements in human milk are in fixed proportions and the digestive glands are developed in like proportion to properly digest these human

elements, it will readily be seen where a digestive disturbance and consequent malnutrition must inevitably result from such a violation of the amounts of these elements in the food as is shown by the above figures in cow's milk. The same inequality must occur in feeding all proprietary foods, as they cannot conform to the elements or proportions in human milk.

Experience shows, and physiology teaches, that each element in the food has a fixed function to perform in building up the body and maintaining its vigor; and also that these duties or functions are not interchangeable. How then can we expect any other than bad results when we see the young infant, a few days old, fed rolled crackers, boiled bread, fresh butter, and proprietary foods, that carry little if any of the elements that nature has deemed necessary to put in human milk, and only for the digestion of which elements she has provided glandular secretions.

The first effect of a sudden change in these proportions is to have fermentation or decomposition occur in the stomach or bowels, with its consequent gastro-enteritis and accompanying febrile symptoms. This usually comes to the attention of the physician and is quickly corrected; but the gradual and continued disproportion in the food elements, which is characterized by crossness, disturbed sleep, foul stools, gassy discharges, bad breath, variable appetite, distended abdomen, and pale countenance, is a type for which the parents too frequently do not see any necessity for medical advice. These are the cases that travel onward, gradually changing and congesting all the digestive organs until they do imperfect work and thus turn into the blood current poison-

ous food products instead of healthy aliment.

These poisonous food products, or ptomaines, continually, while circulating, cause an irritation and disturbance of all brain, nerve and muscular tissues, rather than a proper nutrition of them; and also cause irritation and congestion of the kidneys through the extraordinary labor imposed on them in their elimination of these poisonous products from the body.

It will readily be seen why those children suffering from malnutrition, marasmus, rickets, and scorbutus are more liable to suffer from convulsions in the slight febrile disturbances of childhood, than are those children whose brain and nerve tissues have been regularly and properly nourished from birth onward.

In the treatment of these cases a correct realization of what element or elements has been deficient or in excess, in the food supply, will be found a necessity, as all tissues in the body are not made from the same elements. This is particularly evident in the unbalanced nervous organization of children fed on a dietary deficient in fat, and the extreme vigor and strength of infants who can digest and appropriate a large amount of proteid. The former are liable to convulsive seizures from slight febrile disturbances. The latter may be strong and active but at the same time suffer continually from digestive disturbances and eczematous eruptions, until the proteids in the food are reduced to a proper proportion for perfect digestion. These are only a few of the many inequalities, irregularities, and pathological disturbances resulting from an unbalanced ratio between the elements of food supplied daily and the amount of the different digestive fluids secreted by the alimentary glands.

Without such careful adjustment of the elements in the food, it is impossible to obtain that healthy color, odor and consistence of stool which is an absolute assurance of perfect nutrition and consequent good health.

To correct these disturbances of nutrition by medication alone, is only removing the resulting mistakes temporarily. It cannot in any measure correct the errors daily resulting from the unbalanced dietary.

Such remedies as cod liver oil, syrups of phosphate and iodide of iron, *nux vomica*, quinine and digestive alteratives are always necessary to correct errors committed, and regulate present pathological disturbances. Without their proper assistance when they are plainly indicated, the most perfect dietic regulations will be a failure.

Finally, in summarizing this subject, we find it necessary:

1. To feed the elements in food according to the plan nature has laid down in human milk.
2. The digestive fluid in the healthy infant is adjusted so as to digest only a proper proportion of these elements, fat, sugar, and proteid, in its food.
3. These elements in food do not compensate for each other, as each has a distinct function to perform in nourishing the child.
4. Deficiency in one or more elements always shows in "malnutrition." This can not be avoided by increase in the other elements of the food.
5. In addition to the three nutritional elements in human milk, fat, or butter, milk sugar, and proteid, or cheese, nature only supplies one more elementary food—starch. With these four elements all foods for infants and adults are made.

6. Medicinal treatment assists, but cannot entirely correct the errors committed in "malnutrition."

DISCUSSION.

ALEXANDER M. CAMPBELL, GRAND RAPIDS.

I have had some experience with the modified milk that originated in the Walker-Gordon laboratory in Boston, and I have come to the conclusion that that more nearly approaches mother's milk than anything that has been introduced in this country. All the people, it would seem, who have made any study of this matter, know that there are many children who will live on crackers and water and progress, and other children will not even thrive well on mother's milk. I think we are too largely inclined to believe that the mother's milk is always perfect. There are many children who cannot live on their own mother's milk who will do better on modified milk, or who might even do better on Mellin's food and cow's milk. I think there is no class of cases that require individual study so much as this class. I have had children who could not thrive on modified milk and have made dozens and dozens of different prescriptions for them without success, who have done well on Mellin's food and cow's milk. The individual case ought to be studied.

During an association with the Children's Home in our city we tried cow's milk in all these various forms and made a close study of it, and after some time I succeeded in getting the board to allow me to use modified milk, and I tried to make a very close study of that, and we are having better results with modified milk than any other food we have tried, and while our children are not all thriving upon it, I think they will thrive in proportion to the intelligent study which we give the cases. I am a strong advocate of the modified milk, and I think in a city like Detroit it is a shame that those laboratories have not been introduced. If I am rightly informed, there are only about 13 laboratories in the world in which this milk is prepared. We are fortunate in Grand Rapids to have a modified milk laboratory, and the best element of the profession there is making it a close study, and the best and most intelligent people are using it in their homes. I think if it is properly managed a modified milk laboratory will succeed in any city, and the results are far-reaching.

J. A. FERGUSON, STURGIS.

I appreciate this paper and I am sorry that the time is not sufficient for it to be finished from the simple fact that I think we, as practitioners treating children, come in contact with those difficulties perhaps more than anything else in our general work—that is, the adjustment of the artificial feeding of the child. To get that proper adjustment is what the doctor was trying to get at when his time was up.

I find, and I believe that we are all alike in that field, that where the child has to be raised from artificial feeding, that that is the greatest difficulty that we come in contact with, is getting the ratio of the artificial food to be in harmony with the mother's milk, and the most difficult factor that we seem to find is the ratio of the sugar. We find people raising their infants on cow's milk diluted, and we fail as practitioners, a great many times, in impressing upon the parent the necessity of getting that artificial food just as near as possible to the natural food, and neglect—at least I am guilty of it, and I presume I am not alone—we neglect the importance of impressing the fact upon the parent that that food needs to be as near as possible like the mother's food, and consequently it has to be sweetened. Authors differ in regard to the method of supplying the sugar, but whatever method we do apply we should try as near as possible to come up to the standard of the mother's supply of food, and especially in the sugar.

We, as practitioners, meet with cases every day where this law is abused shamefully, where there is no adherence paid to this restriction. Practitioners, in their busy hurry to make their calls, will fly in and will find an infant that is suffering from bad digestion and malnutrition, and sometimes in a feverish state, and they will hustle up and put up a prescription, pick up their cases and go on. This is wrong. I believe that more good results come from the hygienic laws well obeyed, with these children, than from drugs, and I feel, as one of the army in the work, that this ought to be impressed upon all of us, that we should try and do our best to fix the fact in the mind of the parent to make that food just as near like the mother's food as possible, and to give the mother to understand that it is essential that the bottles must be cleaned at each nursing and no more should be placed in the bottle than the child ought to nurse at one time, not fill the bottle, as is often done; you will go in frequently and see the child lying in the cradle with a half pint bottle full of milk, pulling away, and by and by it vomits, etc. We all see those

things. Now if we will stop and give that mother a good little lecture as to the necessity of stopping all that business and getting down to the prescribed line, and show her the evil, we will do that child more good than we will with our drugs.

CHARLES DOUGLAS, DETROIT.

I am very much pleased with the discussion by the two gentlemen, who are evidently heart and soul interested in the work that they are doing. The remarks of the first speaker were exceedingly appropriate, in regard to the amount of time and care that is necessary in analyzing patients, and physicians doing this work cannot expect to make their visits, prescribe a few drugs and pass out and expect to have success. That is an impossibility. There is not in my work anything that takes such close attention and requires so much time and so much care with it, as the proper nutrition of not only infants but of adults. I merely took the infant as an illustration of the subject of malnutrition.

Now this subject is much further reaching than we are inclined to think. When you have a patient suffering from any sickness in which his digestive powers are very much decreased, it doesn't make any difference whether it is a typhoid fever or a pneumonia, or whether it is a long attack of tuberculosis, very much stretched out, it becomes necessary for the physician to realize just what power of digestion is left to that patient and to adjust his food accordingly, according to the glands that are left in active operation. It is so far-reaching that I find it touches almost every branch of work that I come in contact with, whether it is cases such as I have suggested, or whether it is patients after operations—it makes no difference where, the same subject comes up continually—the proper nutrition of the patient. I do not think to-day, gentlemen, that there is a subject in medicine that is of such infinite importance as the thorough understanding of this work. I do not think there is any physician who can give close attention to this work in the handling of children who will not improve himself so immensely in the handling of all his cases that he will really be surprised that he could have gone through so many years without understanding the subject thoroughly; I do not think there is anything that is such an educator, that will give him such strength, or that will save so many lives, or improve so many delicate cases, as a thorough adjustment of the food to the digestive glands of that particular individual, whether he is a month old or 60 days old.

THE TREATMENT OF APOPLEXY.

CHARLES W. HITCHCOCK.

Detroit.

This paper has its origin not in any new light which the writer expects to shed upon the condition known as Apoplexy, but rather in his belief that there is need of a more exact and intelligent application of the term by the profession generally, and hence a more rational and scientific treatment of the conditions here encountered.

So long as the term "Apoplexy" is to be applied indiscriminately, in its original meaning of "a stroke or blow," to any and all conditions inducing sudden unconsciousness, without regard to the pathological state lying behind this symptom-complex, just so long are apoplectic states to fail of scientific appreciation and, consequently, to lack, in the majority of cases, intelligent and scientific treatment.

It is, I believe, true that, with by far the larger part of the profession, apoplexy stands for haemorrhage, and its usage is so very broad that it is not infrequently applied to haemorrhage into any organ or cavity. Still others apply it to any sudden insensibility or paralysis. This somewhat vague and broad use of the term has been too much encouraged (inadvertently) by professional writers, and has inevitably obscured any definite condition to which the term should properly be applied. Any scientific and debatable entity is not to be drawn from so broad an application.

Let us recall that apoplexy is a clinical term applied to certain conditions usually characterized by loss of consciousness and sudden paralysis, and due either to the breaking or blocking up of an artery

within the cranium. We shall then have but three major varieties of apoplexy, viz: apoplexy due to haemorrhage, apoplexy due to embolism, and apoplexy due to thrombosis, and to the possible treatment of these three conditions we may address ourselves.

Here, as elsewhere in the consideration of the problems of disease, questions of diagnosis cannot be divorced from those of treatment, and apoplexy is to be first distinguished from the various primary and secondary comas due to, e. g., traumatism, alcohol, narcotics, insolation, and uraemia. From all of these, apoplexy due to haemorrhage is more easily differentiated than from the conditions due to cerebral embolism or thrombosis. Nor, indeed, can this latter distinction always be made positively or at once.

Even somewhat confusing are the statements of different authorities, one stating quite positively that "right hemiplegia and aphasia, with absence of previous cerebral symptoms, argues for a diagnosis of embolism," while an even more authoritative writer assures us that, "when profound insensibility, which has been abrupt, has existed for some hours in a person over forty, the chances are strongly in favor of a diagnosis of haemorrhage."

This fact is, however, to be borne in mind, that embolism is not a primary condition, and if there be no endocardial lesion found to justify the suspicion, the diagnosis of embolism may be rejected (and this will be the fact in by far the greater number of cases).

Thrombosis and haemorrhage are not so lightly to be dismissed. Thrombosis especially is predisposed to by syphilis, alcohol, rheumatism, gout—contributed to, in short, by all the causes which encourage the productive inflammations of arterial

walls—and these changes are more numerous, more common, than we are wont to think.

Haemorrhage is more commonly due to the rupture of a miliary aneurism, which condition obtains most often in the smaller arteries, notably the basal branches of the middle cerebral. That this lesion is found more frequently in cerebral vessels than elsewhere is explained by the relatively slight external support afforded these vessels, the greater strain upon them because of their origin from large trunks, and because of a much less free anastomosis here than is common elsewhere. Atheromatous conditions may be present in the larger vessels about the circle of Willis, and a condition of miliary aneurism exist in these smaller vessels, or either condition may exist independently.

When we consider the enormous frequency of the thousand-and-one causes inducing thickening of arterial walls, and consequent encroachment upon vessel lumen, it certainly seems most rational to suppose that thrombotic apoplexy, the natural result of these conditions, is likely to be the more frequently encountered. Symptoms from the two are apt to be very like and confusing. It is not always possible, at the time of the attack, to go back into the patient's past and confirm (or otherwise) any suspicion of recurring attacks of irritability, mental confusion, temporarily impaired memory, fleeting paralyses, or paresis, paraesthesiae, etc., those common precursors of a cerebral thrombosis. We may have before us only the patient suddenly comatose and with stertorous respiration, and if we are able to exclude other causes of such a state, it may tax us to the utmost—nay, may be impossible—to tell whether this is due to a plugged vessel, cutting off the supply

to a definite cortical or basal area, or whether this supply has been deviated through a small rent in a vessel wall, thus depriving the area of its supply and working damage to important structures by the laceration of nerve tissue.

The two accidents may, for a time, present the same clinical picture, though, in the case of haemorrhage, the coma is apt to be deeper and more persistent. The onset of haemorrhage, as has been intimated, is wont to be the more abrupt, yet light upon such facts is not infrequently wanting. Cases of ingravescient haemorrhage, it should be remembered, are sometimes quite slow in their progress to deep coma. Age is sometimes a helpful factor, for haemorrhage is essentially a disease of the degenerative period and seldom occurs before forty. At least eighty per cent of cases are said to occur after that time, but arterial blockings not so infrequently occur earlier. The haemorrhage may take place during some act inducing unusual vascular tension, or it may occur during sleep. The lumen of the artery may become blocked at any time.

The early clinical picture is very often such as to greatly alarm those most interested and there is usually an unwise desire to do many and vain things. One wishes to raise high the patient's head, which may be well enough with a full pulse and a broken vessel, but if there be contracted vessels and a blocked lumen, this is only to still further interfere with a needed and already much impaired blood supply. Measures more vigorous than wise are sometimes undertaken to drive the blood from the head—blistering of the neck or feet, hydragogue catharsis, etc. These things, in the uncertainty of immediate differential diagnosis, may do more harm than good. Ice to the head

may lessen chances of haemorrhage and possible not greatly increase the danger, if the case be one of thrombosis, from further contraction of arteries already too small of lumen. On the other hand, the nitrites, and the arterial dilators generally, while possibly somewhat helpful in conditions of thrombosis, may only add fuel to the fire if the case be one of haemorrhage. Diminished blood-pressure, though often desirable, is too seldom efficiently secured by the measures commonly applied. Venesection, if it is to avail anything, must be applied early in these cases. It must be obvious that the desired conditions are in the main quite opposites, in these two states.

Indeed, that immediate treatment of apoplexy savors of most wisdom which counsels the least active measures. If the importunities of the friends make the appearance of active efforts necessary, let him in command of the situation so tactfully manage that while much is apparently done, his real course is one of masterly inactivity. There is no doubt that the patient's chances in the early stages are too often impaired rather than helped by the unwise anxiety to do much. Wise waiting will not lessen the chance of recovery and will often help to clear away clouds of doubt so that later measures may be taken on more certain ground. If the lesion has been so serious as to cause early death, more prompt, active treatment could not have averted the end. Overloaded bowels and stomach, or distended bladder, it may be necessary to evacuate, but the patient is best but little disturbed during the period of unconsciousness. Inability to swallow, if long persistent, may occasion resort to rectal feeding, but ordinarily the first

twenty-four hours, if the case be recoverable, will see consciousness restored.

As the general symptoms subside, the local symptoms crowd more to the front and the extent of the paralysis with which one has to deal becomes more apparent. Intelligent treatment through the period subsequent to the attack has been more often "honored in the breach than in the observance." The patient merits better things than to be merely shelved as a paralytic for whom nothing can be done. Careful attention to the digestive and eliminative functions, ice to the head and perfect rest for a goodly time after the attack, may keep softening at the minimum. Arterial tension and the heart's action are to be carefully studied and treated as the circumstances demand. After the symptoms immediately incidental to the attack have in a measure subsided, electricity, massage, active and passive exercises may be made use of as rational means with which to combat the after-coming conditions of contracture, spastic states, and sundry trophic changes. Especially, patients with flaccid paralysis are wont to be improved by the judicious use of electricity. Moderate massage is very often helpful, in maintaining muscular nutrition, and so preventing or retarding secondary changes.

It is astonishing to note the possibilities of re-education by graduated exercises when judiciously persisted in. The writer has seen a tabetic, whose powers of locomotion were sadly interfered with, so greatly improved as to walk quite well without support. He, of course, learned to walk with his brain instead of his spinal cord. Similarly, it is possible to do more or less in recovering functions

which have been in abeyance through the damage done by an apoplexy.

Though it is well to bear in mind that a syphilitic endarteritis is most frequently responsible for a thrombotic apoplexy, the too-frequently-drawn inference is not logical, that hence vigorous anti-specific treatment will relieve or remove the condition. It is then too late to accomplish much, if anything, by such means, and time and ammunition are worse than wasted in the majority of cases, for it must be obvious that fibrous tissue once deposited is not to be removed by any anti-specific remedies as yet known to the profession.

It seems paradoxical, possibly, to speak of the prophylactic treatment of apoplexy, but some one has well said of hysteria that its treatment should be begun before the birth of the patient. Thus, too, it is true of apoplexy that the common precursors of cerebral thrombosis, when rightly interpreted, afford the most hopeful opportunity for preventing serious damage. Although even at this time, probably, fibrous tissue has been deposited in vessel walls, surely the best opportunity for checking this productive inflammation lies in the early rather than in the later stages. Since haemorrhage so seldom gives any warning of impending evil, these considerations as to prophylactic treatment apply to thrombosis or embolism only. Prophylaxis as to the latter will consist naturally of means, both medicinal and hygienic, directed to the endocardial condition. The patient must be made to know his danger and be carefully advised as to an even tenor of life, as free as possible from mental and physical strain.

Cases of threatened thrombosis are of special interest, for the symptoms are so

frequently clear-cut, numerous, and frequently repeated. The question is: "How much can we do?" For twenty years, arterial degenerations have been better recognized than previously, and yet it may be doubted if we have made great progress along the therapeutic pathway. Do we to-day know any remedy upon which we can rely which can either jugulate or prevent the productive inflammations of arterial walls? In this, it seems, must lie the hope for really efficient treatment in the early stages of such inflammatory process, for the law of pathology seems inexorable that fibrous tissue, once formed, is not to be done away with.

Occasionally, we see some bold attempt along the line of combating these sclerosis, and hear claims made for measures like the following, but they are as yet lacking in testimony of time and trial. I refer to a serum known as Trunecek's serum, the following formula for which comes from Merck's Archives:

Sodium Sulphate	0.44 gm.
Sodium Chloride	4.92 gm.
Sodium Phosphate	0.15 gm.
Sodium Carbonate	0.21 gm.
Potassium Sulphate	0.40 gm.
Distilled Water, q. s. ad.	100 gm.

This is said to contain all the alkaline salts which exist in the normal blood and in normal proportions when diluted with nine times its weight of water. It is said to be beneficial in general arterio-sclerosis, cerebral arterio-sclerosis, etc. Trunecek injects 1 c. c. of the concentrated serum every four to seven days, gradually increasing. This may be worth a trial.

While it must be admitted that we have as yet no specific which we may apply at this early and most hopeful stage, yet we should be earnest in all reasonable efforts to counteract promptly any discovered

tendencies to arterial degenerations. These patients are frequently, I know, those upon whom it is most hard to make any impression through advice as to their danger, necessity for improved habits of life, such as the abolition of alcohol, venery, high pressure, late hours, etc., yet we shall stop short of our duty if we fail to emphasize these things. Here, too, in the earliest detectable stages, anti-specific measures have their proper place. A better hygiene and improved dietetic regimen can often be secured by advice tactfully presented.

If, on the whole, apoplexy is, as it is often regarded, one of the darkest corners of the large problem of disease, it surely is all the more incumbent upon us to make use of all the light we have, to consider more carefully the probable pathological conditions with which we are dealing, and to apply rational and scientific treatment rather than follow blindly the traditions of precedent, as we all know is too often done.

270 Woodward Ave.

THE DIAGNOSIS OF ANEURISM OF THE AORTA.

P. M. HICKEY,
Detroit.

It is not my intention in this short paper to enumerate the classical methods of ordinary physical diagnosis of value in the diagnosis of aortic aneurism. These you will find fully described in the various text books on physical diagnosis. My purpose, however, in presenting this short paper is to emphasize the importance of an X-ray examination of the chest in cases where aortic aneurism is at least suspected to be present. To illustrate the value of

a fluoroscopic examination, I will give briefly the history of two cases which seem illustrative of this point.

Case 1 (seen with Dr. E. L. Shurly). Mr. W., age 53, carpenter; married for 30 years. Two children, both healthy. General health always good until two months before the examination, when he became hoarse. Never had any fever. Lately has been feeling weak and now complains of great dyspnoea on exertion. Lately has also had considerable cough. Complains of wheezy sensation in his chest; has no pain. Examination shows paralysis of the left vocal cord, prolonged expiration of respiratory murmur, particularly on the left side. Temperature 98, respiration 18, pulse 82. No tubercle bacilli present in sputum. There was no tracheal tug, no pain in the chest, no bruit. It was impossible to note any pulsation either in front or back. The diagnosis in this case lay between a gumma of the mediastinum, mediastinal neoplasm or aortic aneurism. Fluoroscopic examination of the chest showed a large shadow above and distinct from the heart, which distinctly pulsated and which grew distinctly larger on forcible inspiration. A positive diagnosis was then made of aortic aneurism. In this case there was no bruit, no pulsation, no tracheal tug and no pain. The diagnosis in this case was confirmed by autopsy some few weeks later.

Case 2. Mr. G., age 35, bartender; single. Probable syphilitic history, although it was impossible from his statements to make a positive diagnosis. Complains of having been short of breath and hoarse for some months. Dates his trouble back to a trip on the roller coaster. When under the exhilaration of the high speed he used his voice very sharply. Since then has complained of intermit-

tent hoarseness. The dyspnea at the time of examination was very marked. Laryngoscopic examination showed paralysis of the left vocal cord. There was no cardiac murmur, no bruit and no abnormality in the respiratory sounds. He had been advised by one physician to go to Colorado for his health. Fluoroscopic examination revealed a large pulsating shadow on the left side above and distinct from the cardiac shadow. Patient was advised of the seriousness of his condition and warned against the danger of going to a high altitude. However, he accepted the advice of the physician who told him that his trouble was pulmonary, and went west and died from hemorrhage on the train. These two cases are sufficient to emphasize the necessity of a fluoroscopic examination in order to verify a probable diagnosis of aortic aneurism. I have notes of other cases where the positive diagnosis was made with the screen, but where the diagnosis was not verified by autopsy.

It might be well to describe briefly the technique which I have found useful in the examination of the chest with the Roentgen ray. Personally, I make use of a large induction coil, although probably as satisfactory work can be obtained with a static machine, if it will generate a volume of current for the proper penetration of the thorax. It is essential when examining the chest with the Roentgen ray to employ a current sufficiently strong so as to secure proper penetration. If the induction coil is made use of, better results will be obtained if an electrolytic interrupter, as the Wehnelt or Caldwell interrupters, is employed. Good results are also obtained with the mercury break interrupter. It is difficult to make

a satisfactory examination of the chest with an induction coil with the old-fashioned vibrator break, as the illumination is apt to be flickering. Perhaps one of the most important parts of the technique is the selection of a suitable tube. If a high vacuum tube is employed, the entire chest will be lighted up with only slight variations in illumination. It is essential to use a low vacuum tube capable of taking care of a large amount of current. In this way the maximum definition is secured, and a differential diagnosis is made comparatively easy. One of the failures, perhaps, of some of the workers with the X-ray in chest examinations is that they have not used a tube of proper vacuum. The tube which I have found most satisfactory for this work is a tube imported from Germany which has a very simple device of rapidly lowering the vacuum. This tube will take care of a large volume of current for a short time, say from one to two minutes, which is sufficient for any chest examination. The ordinary fluoroscope can be used, but there are some points which make the use of a fluorescent screen of larger size of greater value. I have found a screen 20 inches long by 6 inches wide very suitable.

The most important point in the use of the X-ray in the examination of the chest is to have the room properly darkened. In order to secure this it is better to have the coil or static machine and the Crooke's tube in a room entirely separate, and to allow the radiance from the tube to pass through some partition which is easily permeable, such as black canvas, which will exclude from the eye all extraneous light. By having such a room absolutely darkened and remaining in the room a short time before

making the examination, so as to allow the retina to become thoroughly rested and the pupil of the eye to be fully dilated, better results can be obtained. It is unsatisfactory to make an examination in a room which is only partially darkened without having the eyes thoroughly rested.

In closing this short paper, I would like to state distinctly that I am not advocating the exclusive use of the X-ray in examination of the thorax. It has been my purpose to advocate its use as a supplementary means of examination in addition to the ordinary classical methods which are in vogue at the present time. It has been considered that the Roentgen ray is more valuable in surgical cases, but the recent literature would seem to indicate that there will be a greater field in the diagnosis of medical cases.

THE CAUSES AND TREATMENT OF ASTHMA.

CHAS. H. BAKER,
Bay City.

Did you ever hear the expression "gunning for sparrows with a cannon?" I was reminded of this expression recently in looking over a widely distributed publication, an index of remedies compiled from standard works in medicine, and seeing how extensive was the list of remedies recommended in asthma.

Only seven other ailments, tuberculosis among them, had an equal number and the list was not as complete as could have been made.

There were no less than sixty remedies in this confession of ignorance, as it ought to have been termed, and their

actions were the most varied and opposite in character. You had your choice between nerve sedatives and nerve stimulants, sedatives to respiration and circulation and stimulants ditto; alkalis and acids, astringents and counterirritants, emetics and anaesthetics; remedies suited to gout, syphilis and ague, digestives and antiseptics, electricity and hypnotism; or all these failing there were still steam, smoke, mud, climate, clothes, sulphur and spectacles.

Some time since Dr. Barnhill, of Indianapolis, wrote the professors occupying the chairs of practice in all the western regular colleges to show how many had ever cured asthma by medical treatment, and all who replied stated without exception that they had cured none, and I am certain that an honest census of the profession would show an overwhelming majority holding the same opinion.

Barring cardiac and renal asthma, which are not properly classed as true asthma, recent writers claim asthma to be a reflex disorder, due primarily to nasal irritation, engrafted on a suitable nervous organization, *i. e.*, one of those hair trigger nervous systems which require only a touch to set off the explosion. This is the type of organization which is liable to chorea, epilepsy, hay fever, asthma, etc., when irritation is applied to some peripheral nerve area.

It is possible for irritation of other organs than the nose to induce an attack in a confirmed asthmatic, as indigestion following a rich salad or sudden arrest of skin functions by cold, but evidence is rapidly accumulating to show that by far the larger number of asthmatics have nasal irritation as a starting point for their attacks.

The confessed failure to cure by medicine alone is my excuse for bringing this subject before a body of general practitioners in the hope that the causes of the disease will be better and more generally recognized and the large army of hopeless sufferers from this disorder be relieved.

At the present time so many men in general practice do some work upon the nose, and men now graduating into medicine are so much better equipped to recognize nasal disease, that many sufferers from asthma may receive proper treatment at the hands of the general practitioner, especially those in the villages and country, where access to the rhinologist is difficult.

Probably the most widely accepted theory of the cause of asthma has been the presence in the blood of some material which, failing of elimination by the skin, bowels and kidneys, is eliminated by the mucous membrane of the lungs, producing local congestion, irritation of the nerve endings and reflex spasm of the unstriated muscle fibers.

The presence in the sputum of Cushman spirals, and the Charcot crystals, has lent color to the theory, but no satisfactory origin for the crystals has yet been found. They do not always occur in asthma and have been found in sputum not asthmatic, while the spirals are undoubtedly fibrinous casts of the laryngeal glands which have been formed during the attack and are allied to the fibrinous exudate that occurs in the nose in advanced hay fever.

Furthermore the spasm occurs first and the exudates follow, the congestion being a result of the spasm and the straining to get breath.

Asthmatics often pass from a state of normal health into a severe attack immediately after a sneezing fit produced by nasal irritation.

Touching certain areas of the nasal membrane in these patients will excite a soft, rattling cough without expectoration, and many of them will at once begin to wheeze as though commencing an asthma paroxysm. I shall make no attempt to enumerate all the causes which have been credited with producing this disease, but will at once describe some typical cases that illustrate the various nasal conditions which I have found to produce the disease and the removal of which has cured or greatly helped the paroxysms.

Please note that no claim is made to be able to cure all cases of asthma, for nerve habits are the hardest to break up, but by removing the first cause, the nasal disorder which produced the attacks, many can be cured and most can have the attacks greatly lessened in frequency and severity.

Case 1. Woman aged about 50 years had suffered from hay fever and asthma many years. Her asthma was perennial, although most severe during the hay fever season. She had a short nasal spur of the left side, which easily came into contact with the lower turbinate on slightest swelling of the latter, but little evidence of any other nasal abnormality. The spur was removed and the asthma immediately ceased and has not recurred. This patient is the type of a large number of highly neurotic subjects with slight periodic irritations as the cause of the asthma.

Case 2. Man aged 30 years, a chronic sneezer, who never could lie down and

sleep all night while in Bay City, although in Mackinaw his asthma troubled less. Left nasal chamber normal. In right chamber had a spur so long that it had pushed into the middle of the lower turbinate, produced absorption of the latter and was pushing against the nasal wall.

Its removal was accomplished by the trephine and Gruenwald forceps, at once arresting both sneezing and asthma so that he has been able to sleep undisturbed from the day of its removal.

This case is an extreme one of the class to which the first belonged, although as in several of like severity the neurotic element has not been very marked.

Case 3. Man about 35 years of age. Suffered eleven years with chronic asthma which of late prevented him from following his trade of barber, as he could not raise his arms or stand while the attack was in progress and his paroxysms were worse in daytime, contrary to the rule. The middle turbinate was found bullous and pressing on the septum in each chamber. Removal of the worst one lessened the severity and frequency, while removing the second stopped his attacks altogether.

Case 4. Girl fourteen years of age who had had asthma since one year of age, most of the time severe enough to prevent her sleeping prone for weeks together. Large tonsils and adenoid bursa left from the former adenoid mass, which must have entirely closed the nasopharynx, removed. Attacks lessened in severity. Middle turbinal which pressed on the septum also removed and attacks at once stopped. This patient had the typical adenoid face, and the enlargement of turbinates was more apparent than real owing to arrest of nasal development from the adenoids, although the pressure

resulting was active in prolonging her asthma.

Case 5. Woman aged 40. Had nasal polypus removed at intervals during past five years, each clearing stopping for the time being her asthma. Went to Washington and lived in the dry air eight months without asthma, but on reaching Chicago was seized with severe attack which continued almost without interruption for weeks.

Removal of the polypi, scar tissue, from previous removals and middle turbinates has stopped the disease so that she had no more attacks except one, produced by irritation of the polypus that formed during the healing of the turbinal stump.

I could fill a paper of twice the length of this with histories of cases, but the types given illustrate what I wish to make prominent. Among the cases mentioned and others like them is one factor which they possess in common, namely, pressure on sensitive areas of the nasal chambers. Even case four, which was primarily an adenoid case, had pressure from swollen turbinates in infancy, which led to the bony hypertrophy that perpetuated the condition of pressure when we might reasonably have expected spontaneous recovery.

Few of my cases have taken any sort of medical treatment for their asthma since operating, simple cleansing of the nasal chamber until healed being all they required.

By far the larger number of asthmatics treated have had nasal polypi, and the removal of the polypi has been followed by prompt relief. It is a curious fact that a very small polypus will bring on a paroxysm of asthma almost as certainly as the largest; therefore it is highly necessary to secure all when undertaking their

removal. Polypus grows most frequently from the lower edge of the middle turbinate, next from the edges of the hiatus semilunaris, which lies to the malar side of the middle turbinal, and lastly from the upper surface of the turbinate, very rarely from any other part of the chambers. Being caused by disease of the turbinate and adjacent sinuses they are seldom extirpated permanently without removing the middle turbinate.

Almost invariably when this is done several polyps are found snugly hidden behind or above the bone where they could not be seen or reached until the bone was first removed.

To recapitulate, asthma is a reflex disorder primarily due to nasal pressure, intermittent or constant, occurring in a patient of the neurotic temperament.

Asthma can be cured in many and relieved in most by such measures as will remove this pressure.

Asthma being primarily a surgical disease, the various drugs recommended for its cure, with very limited exceptions, should, as Oliver Wendell Holmes said, "be cast into the sea, and it would be better for people even if it were worse for the fishes."

DISCUSSION.

WILLIS S. ANDERSON, DETROIT.

I have been very much interested in Dr. Baker's paper and feel that he has reported to us interesting cases showing the nasal origin of a certain number of cases of asthma, but I think it is very unfortunate to have the impression go out that all cases of asthma are of nasal origin, and in dissenting from this view I speak as one who has given over ten years of time largely to nasal and throat work. I think it is a great mistake, and brings discredit upon those of us doing special work, to assign all cases of asthma as primarily of nasal origin. It seems to me much better to look upon asthma as a neurosis with

an exciting cause, and not confined necessarily to the nasal chambers. There are any number of cases seen by the general practitioner, and by those doing special work in other lines, that are clearly not of nasal origin. For instance, I recollect one case, that I saw in Detroit, which was operated upon for nasal trouble by a competent man, but the asthma was not relieved. She fell into the hands of a general practitioner, who, for other symptoms, repaired a lacerated cervix, and from that time until now she has not had any return of her asthma, showing that in this case the pelvic trouble was the exciting cause of the asthma. In the same way the stomach, the intestines and other organs may excite, or keep up asthmatic attacks. I agree with the doctor that a great deal can be done, in many cases, by nasal treatment, but there are many other cases which are independent of nasal disease, and in these medicinal, local and climatic treatment will do a great deal for many cases where nasal surgery will fail.

*MODERN DIAGNOSIS.

P. S. ROOT,
Monroe.

A few general remarks under this heading may not be untimely, especially if they serve to keep us in touch with scientific methods and the aids to be derived from the employment of such methods. I do not need to tell you that with the trend of scientific medicine has come a certain perfection of detail in diagnosis which heretofore was unknown to us.

Prior to the discovery of these aids, our deductions were arrived at by inference and empiricism, while today the determination of a great majority of diseases is a simple matter—almost a purely ocular demonstration. Contrast, if you please, the status of internal medicine today with that of twenty or thirty years ago, and what do we find? Take, for instance, such a disease as typhoid fever;

*Read at the meeting of the Monroe County Medical Society, January 22nd, 1903.

it could not with certainty be diagnosed from certain unusual forms of malaria or sepsis. In fact there was then no objective symptom that might not be found in some other diseased condition. We have now but to call into requisition the Widal and Diazo reactions, and in nine cases out of ten the nature of the disease is positively known. So, too, with the malarial affections; we no longer depend upon chills, paroxysms or remissions, but simply examine the fresh or stained blood with the microscope, and if the plasmodium is found, the nature of the disease is evident. A word might be said in reference to the so-called "typho-malarial" fever, if for no other purpose than to condemn the use of the term. We know that in the Spanish War a few cases were seen in Cuba, in which both the Widal reaction was positive, and the parasite of malarial fever was found in the blood. But I am not aware that these findings have, at any time, been confirmed by observers in this country. With us the term appears to be largely used to circumvent the requirements of the law in regard to the reporting of typhoid fever. This is not just to the patient, the family, or the public, and no self-respecting physician should be guilty of such deception.

With the exact knowledge of the pathology of tuberculosis, came also the easy determination of the etiological factors, viz.: the bacilli of tuberculosis. In the pulmonary, renal and bladder forms of this disease, the microscope and necessary stains, afford a ready means of diagnosis. So, too, with pneumonia, the microscopical examination of the sputum will show the pneumococci, which, if found in large numbers, and in the form of colonies, with perhaps some blood corpuscles, you are safe in treating the case as one of

pneumonia. You must not, however, be misled by an occasional pneumococcus which may be, and is quite likely to be found in any specimen of sputum.

Another disease which bacteriology has brought within our grasp, is diphtheria. Here we have but to take a culture from the throat and in twenty-four hours we may be positive as to the nature of the affection. From this discovery alone has resulted the saving of thousands of lives.

"Koplik's Spots" in measles are come to be relied upon as pretty distinctive and constant in this disease. Personally I have been able to make a diagnosis in many cases one or two days before the advent of the eruption. In fact, I do not recall a single case in which the "spots" were not in evidence. "Lumbar Puncture" is a valuable aid to us in the diagnosis of spinal meningitis. If the fluid be found cloudy, that in itself is certainly very suggestive, but going further, bacteriology will remove all doubt. "Kernig's Sign" also gives us confirmation in cerebral meningitis. This symptom becomes evident when the thigh is flexed at right angles with the body, then full extension of the leg is not possible. The sign is not infallible, but is of much value. There are other tests of frequent use in nervous disorders, but those mentioned are perhaps the most important in general practice. In conclusion, I wish briefly to call your attention to some of the benefits to be derived from a study of the blood. In this connection I think that it can be truthfully said that our knowledge has been wonderfully increased since haematology has come to be recognized as the leading factor in diagnosis. A case occurring in my own practice some years ago will exemplify: It was that of a young lady who for a year previously

had been attending school in a western city, and while in this school she became ill, with what appeared to be tubercular peritonitis. Her symptoms were such as pointed quite conclusively to this disease; continued fever, tympanites, diarrhoea and marked emaciation. After some little observation, I referred the case to a specialist in Detroit for operation. An examination by this surgeon resulted in the diagnosis of an ovarian tumor, and after a few days in hospital she was made ready for a laparotomy, when it was discovered that the patient had an enlarged spleen, and that her serious symptoms were due to disease of this, and other blood forming organs; in short, the case was one of splenic leukaemia.

Such an erroneous diagnosis would hardly be possible to-day. We should only require a specimen of the blood, and the requisite stains, when our task would be almost as easy as counting one's fingers. To cite a case of more recent occurrence: A young boy of this city was treated for some months, or until shortly before his death, for tuberculous peritonitis. About one week prior to the boy's death a correct diagnosis of leukaemia was made. And so we might multiply instances, but suffice it to say that, with a proper examination of the blood, we may with absolute certainty diagnose all such diseases as: chlorosis, pernicious anaemia, leukaemia, anaemia, relapsing fever, malarial fevers, etc., etc. There are of course many tests to which I have not alluded—tests that are of much value—and yet I trust that I have called to your attention some of the possibilities of scientific medicine. Within the past two years there have been diagnosed in this city four cases of these obscure blood diseases, and that, in the practice of two physicians only, by the mic-

roscopical examination of the blood cells. I have directed your consideration to these data that you might have, as it were, a practical demonstration of what the general practitioner may do. The technique of these various tests is not difficult, at least not so difficult but that any physician may possess a working knowledge of the details. The day of "snap diagnoses" is rapidly on the wane, and deservedly so. We are perhaps too slow in taking advantage of our opportunities, for I believe the time is not far distant when our patients will demand of us a more up-to-date knowledge of the practice of medicine. We cannot afford to sit idly by and allow the time-honored name of "family physician" to become a misnomer; and I therefore plead with you to apply your attainments and endeavor to perfect yourselves in those subjects in which your knowledge is deficient.

As physicians you should not be unmindful of the fact that our colleges are turning out men well grounded in pathology, and all that pertains to scientific medicine. We must meet these men, and to do so with credit to ourselves, we must needs be vigilant and well-armed for competition. To this end let us make our society a common meeting place, where each may bring some fact, some observation for the general good of all.

Ottawa, Illinois, Jan. 19th, 1903.

THE EDITOR—Will you kindly note in your valuable Journal that the date of meeting of the Illinois State Medical Society has been changed from May 19-20-21 to April 29-30, May 1-2, 1903, in Chicago. This change was made necessary to anticipate the earlier meeting of the American Medical Association at New Orleans.

Yours very truly,

E. W. WEIS, Secretary.

The Journal of the Michigan State Medical Society

All exchanges, books for review, manuscript, etc., should be addressed to the EDITOR, 57 W. Fort St., Detroit, Mich.
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Editorial

A MEDICAL DEFENSE FUND.

Nothing more clearly demonstrates the advisability of a common defense fund for the protection of our members from the annoyance and expense of an unwarranted suit for malpractice than the suit recently brought in the judicial circuit of Macomb County by the husband of the deceased against Drs. Harry G. Berry and Harry F. Taylor, of Mt. Clemens, and Dr. Angus McLean, of Detroit, for malpractice on account of an alleged error of judgment in operation and subsequent faulty surgical treatment in the case of a woman operated upon for appendicitis, who died several days later of what was clearly shown at the trial to be due to uraemic convulsions. At a postmortem upon the deceased done by Drs. W. D. Wilson and M. C. Cronin, of Mt. Clemens, without the knowledge of the defendants, what they claimed to be the appendix was removed. Upon the trial it was proven that this piece was either the stump of the appendix or a diverticulum. Fortunately for the honor of the surgeons the original appendix had been preserved.

It took the jury but a few minutes to decide that there was no cause for action; yet, besides the loss of time and the unwarranted annoyance and uncertainty of many months, the suit cost the defendants over \$2,000.00.

It has been estimated by those familiar with the subject that a common defense fund could be created and maintained at a very moderate cost per capita. Whether such a fund should be established within each county or by the State Society is a

matter to be determined upon a more thorough investigation. The committee on legislation of each society should take this matter up. It is of course understood that such a fund could not be used in criminal suits or for paying any damages.

At a meeting of the Presidents and Secretaries of seven State Societies, held by invitation of the President and Secretary of the American Medical Association in Chicago last month, Dr. Harold N. Moyer, of Chicago, outlined the plan advocated by the Chicago Medical Society (the official medical society of Cook County), which is to retain at a moderate cost some well and favorably known legal firm, whose duty it is to familiarize itself with the various problems to be solved. In this way many threatened suits have never been brought to light, many dollars have been saved and much annoyance avoided.

RELATION OF MORBUS GALLICUS TO THE KIDNEY.—A FEW POINTS ONLY.

Syphilis, like a bad coin, a doctor is liable to meet anywhere and at any time. Its manifestations are greatly varied. Any organ in the body can be affected—some much more frequently than others. It is the object of the writer of this article to bring together briefly some of the effects of the "great pox" on the nephros.

Lues venerea of the kidney can occur during any stage of the disease, though it is more common in the secondary and tertiary periods. It makes itself a companion to the old as well as to the young.

The kidney is not as often visited by it as are some of the other body organs.

PATHOLOGY.

1. Albuminuria with no marked clinical evidence of inflammation of kidneys (Pastoir).

2. Syphilitic nephritis—lesions cannot be differentiated from those of other acute infections (Osler).

3. Gummata of kidneys. This usually cannot be diagnosed clinically (Osler).

URINARY EXAMINATION.

As one would imagine, the condition of the urine depends on the character of the process in the kidney. You may have nothing abnormal in the excretion of the nephros, or again, one may find albumin, or again one may find albumin, sugar, urobilin, increase in urea (Pastoir) and casts (epithelial, hyaline, granular, blood) (Stockton).

Pastoir believes that syphilitic anemia plays an important role in luetic nephritis, while Bacon says it is caused (1) by primary alterations in blood (particularly in globules and albuminoid principles), and (2) by passage of specific organisms through the kidneys, producing changes there, thus setting up an infectious nephritis.

No absolute diagnosis can be made, either from the kidney symptoms alone or from the urinary examination, but the recognition on the part of the doctor of the presence of other less marked syphilitic lesions (at times they may be very obscure), and the response of the disease to luetic treatment, settles the matter.

Outside of the treatment, the most important thing to the mind of the doctor

as well as to that of the patient, is the prognosis. They both want to know what the outcome is to be. (1) Fortunately recovery is the rule, though this may take several months after treatment is begun. (2) In a few cases the disease becomes chronic. (3) In very rare instances it takes on a fulminating type and death occurs within two to three weeks.

GUY L. CONNOR.

County Society News.

CALHOUN COUNTY.

At the annual meeting of the Calhoun County Medical Society, held in Marshall, Dec. 9th, the following officers for 1903 were elected:

L. S. Joy, of Marshall, President.
Jas. H. Reed, of Battle Creek, Vice-President.
W. H. Haughey, of Battle Creek, Secretary-Treasurer.

BOARD OF DIRECTORS.

J. L. Ramsdell, five years.
Eugene Miller, four years.
E. J. Pendell, three years.
A. J. Abbott, two years.
C. G. Vary, one year.

A. W. Alvord, of Battle Creek, delegate to State Society for 1903:

Nine new members were received, making the total membership to date sixty-five.

The scientific program consisted of address of retiring president, Geo. C. Hafford—"Considerations of Some Cardiac Problems," and a paper by Angus McLean, of Detroit, "The Biliary Passages—Bile Flow—Surgical Treatment." Also a discussion of business methods by Dr. Eugene Miller, and a paper on "Iritis" by Geo. W. Green.

In the evening the members and their ladies were entertained by the ladies of Marshall, at a magnificent banquet, delightfully served in their honor. Covers were laid for one hundred. The literary and musical program following was particularly fine. Much credit is due the Marshall ladies.

W. H. HAUGHEY, Sec'y.

*THE BILIARY PASSAGES—BILE FLOW— SURGICAL TREATMENT.

ANGUS McLEAN,
Detroit.

The biliary passages are the canals that carry the bile from the organ in which it is secreted, the liver, to the organ in which it performs its function (if any), the intestinal canal; they consist of ducts that lead from the liver to the intestine with a diverticulum leading off to the right, known as the cystic duct and gall-bladder, which is supposed to act as a reservoir for the bile during the intervals of digestion, and are situated in the right hypochondriac region between the liver and duodenum, the gall-bladder being under the costal cartilage of the ninth rib. These tissues do not take any part in the secretion or function of the bile and simply act as a medium in transferring the bile from one organ to the other. The biliary tracts, like other hollow visera of the abdominal cavity, are composed of a muscular wall lined with mucous membrane and surrounded in their greater portion by the peritoneum which forms the serous coat. The mucosa of the biliary duct is continuous with that of the duodenal canal and any inflammatory condition that affects the latter may extend to the former. Micro-organisms or parasites that occupy the intestinal canal may find access to these ducts and be the cause of disturbance there. The diseases of the biliary ducts, that are not produced by cholelithiasis, usually extend from the intestinal canal as a contiguous inflammation or the transmission of micro-organisms that are habitants of the intestinal tract. This may be in form of a catarrh that extends up the common duct from the duodenum, and as a result of this, catarrhal cholangitis follows. These conditions may extend to the gall-bladder, producing a cholecystitis. A catarrhal cholangitis is usually preceded by a history of some gastro-duodenal disturbance with symptoms confined to these organs, and is not accompanied by febrile disturbance—but as a result of this cholangitis the biliary flow may be interfered with from a closing in of the ducts, and the evidences of jaundice soon become apparent. This simple inflammatory condition may become a septic one by sepsis from the intestinal tract and a suppurative cholangitis follow that may extend to the gall-bladder and result in

empyema of that organ; this is a doubly dangerous condition, for there is not only an obstruction to the discharge of bile but there is also a septic condition present. This will be accompanied by chills, fever, and other evidences of sepsis, and what was a simple condition and somewhat amenable to medical treatment now produces a surgical aspect, which we will refer to further on.

The most interesting and important disturbances of the biliary tracts are those produced by that condition known as cholelithiasis, biliary lithiasis, or gall-stones. Statistics show that about 75 per cent. of all diseases of these organs are produced from this cause.

Etiology—Two principal theories are held by investigators as to the cause of gall-stones, the chemical and anatomical. According to the chemical theory (of Thudichum and Bouchard) calculi are formed by precipitation from special chemical changes in the bile and the cholesterol is not dissolved. If the cholesterol is not dissolved and a large amount is present in the bile, it precipitates. This theory is opposed by Nauyn, the chief objection being that the proportion of cholesterol in the bile is constant and not increased in cholelithiasis and that the bile contains an amount of biliary salts and fats greater than is necessary to dissolve the cholesterol.

The anatomical theory is supported by Meckel and Nauyn, who hold that the calculus is formed by a special catarrhal condition of the bile passages (lithogenous catarrh) whose function it was to separate the cholesterol and the salts of lime, and which, by this inflammatory condition of the mucosa, increased the amount. The finding of a special bacterium in calculi, the precipitation of bilirubin and lime by the bacteria of putrefaction, and the fact that cholelithiasis may follow a typhoid infection, would go to prove the parasitic origin of lithogenous catarrh, which is the principle of the anatomical theory.

No definite cause for the condition of cholelithiasis has yet been accepted, and this subject waits further investigation.

Cholelithiasis is most common in persons above 30. It is rarely that gall-stones are found in patients before that age and more than two-thirds of the cases are found in women. This is thought to be due to tight-lacing, sedentary lives and pregnancy. These conditions predispose toward slowing of the bile current. Any interference with the free flowing of the bile will favor inspissation and precipitation of its constituents.

Brockband gives the following varieties of gall-stones: pure cholesterol stones, laminated chole-

*Read at annual meeting of the Calhoun Co. Medical Society.

sterin stones, common or gall-bladder calculi, pure bilirubin calculi, mixed bilirubin calculi, biliverdin and some other exceptional forms. They are of different sizes, shape and color; their consistency differs, some being soft and easily crushed, while others are quite firm. They differ in numbers from one to several hundred.

Where formed—Gall-stones are formed in the bile ducts of the liver (intrahepatic) and in the gall-bladder. Those found in the hepatic duct come from the liver and those in the cystic duct from the gall-bladder, while those found in the common duct have come from the liver or gall-bladder. Gall stones take a few months to become large enough to produce marked symptoms, and this period will usually be accompanied by some disturbance of the digestive organs, such as constipation, nausea, heaviness in the epigastric region, etc.

The acute symptoms of gall-stones appear suddenly and are due to the efforts of the bladder or ducts to free themselves of a calculus. It must be remembered that these stones do not always produce disturbances, for stones have been found with no history of biliary colic. In this there are paroxysms of colicky pain in the right hypochondrial region, and pain extending back to the shoulder blade, and nausea.

Calculi in different portions of the biliary canals produce different symptoms. Calculi lodged in the cystic duct or gall-bladder produce the characteristic biliary colic, but do not cause jaundice, for they do not interfere with passage of the bile into the intestines. Calculi lodged in the hepatic or common duct not only produce the characteristic colic, but cause a jaundice, a mechanical jaundice. The bile is backed up into the liver and then forced into the circulation. It is first discovered in the urine, then in the conjunctiva and finally in the skin over the whole body, and the stools are colored. This form of jaundice is frequently intermittent. Large quantities of bile appear in the stool suddenly; this is due to some movement of the stone, the ball valve movement of Fenger.

When a gall-stone obstructs the cystic duct the gall-bladder may gradually distend, not from bile, but from its own secretion, mucus, etc. The gall-bladder may distend 3 or 4 inches below the costal cartilages, where it may be palpated, and if it is tender and inflamed this can be aggravated by making firm pressure over the abdomen with the tips of the fingers just below the cartilage of the ninth rib (this is on about a line with the linea semilunares, right side), and then

requesting the patient to take a long breath. By so doing the gall-bladder is forced against the depressed abdominal wall by the diaphragm, and the patient will complain of severe pain and catch his breath. When the gall-bladder is not distended or inflamed I do not think anything can be detected by manual examination.

This distended gall-bladder may become infected and a suppurative cholangitis follows. The symptoms of the condition are rigors and sharp rise of temperature. These rises of temperature are short and sharp, the temperature going as high as 104 and dropping again to 100. This range of temperature is very marked, and is spoken of as an "angular temperature." There is also pain in this region and a loss of weight follows.

These diseases of the gall-bladder do not respond to medicinal treatment. If a complete constriction of the neck of the gall-bladder exists the gall viscus becomes distended by its own secretion and may finally rupture or it may become gangrenous and a septic peritonitis follows. Biliary calculi may produce an ulcerative cholecystitis and finally escape into the peritoneal cavity. In rare instances they pass into the duodenum, colon, stomach or ulcerate through the abdominal wall, leaving a fistula. Ulceration of the gall-bladder into the duodenum, stomach or colon, or through the abdominal wall, is nature's method of safely relieving this diseased viscus. This happens only in a small percentage of these cases and is a dangerous remedy to wait for.

The other remedy resorted to is the surgical treatment, the technique of which is of comparatively recent date, but by its significant results it is destined to become an important factor in the surgical field. The practical operations devised for the relief of the biliary passages are, namely, choecystotomy, choledochotomy, cholecystenterostomy and cholecystectomy.

Mayo Robson advises operation in the following cases: In frequently recurring biliary colic without jaundice, in cases of enlargement of the gall-bladder without jaundice, in persistent jaundice which was ushered in by pain, painful seizures occurring, whether or not febrile attacks occur; in empyema of the gall-bladder; in abscess about the gall-bladder or ducts; in fistula cases, in phlegmonous cholecystitis and gangrene of the gall-bladder, in infective and suppurative cholangitis, and rupture of the gall-bladder.

The principal contra-indication to an operation is a haemorrhagic diathesis; severe jaundice

causes this condition, and when present the blood should be tested as to the time for coagulation, and if it does not coagulate quickly, calcium chloride should be given as recommended by Mayo Robson for the purpose of making the

was measured every two hours. Calomel, podophyllum, gamboge, soda phosphate and salines were administered at different times during the period.

The following deductions were made as a re-



METHOD OF EXPERIMENTING.

Drainage Tube in Gall bladder, and Tube attached carrying bile to bottle.

blood more plastic. When a severe icterus is present absorption is slow and the healing process is interfered with.

In connection with this article I wish to report the results of some experiments with the biliary flow.

I have selected 3 cases of different ages, namely 32, 47, 68, thus including a young, middle-aged and an old person. These experiments were made with a view of noting the amount of bile excreted during certain hours, its specific gravity, the effect that cathartics would have on the flow and the effect the discharge of bile would have on the patient, etc.

Case 1.—Mr. H., aged 32, a laborer, had suffered from a cholecystitis for some time.

A cholecystotomy was performed and a drainage tube inserted into the gall-bladder and allowed to remain there for 12 days. For the first five days the bile was measured at 9 p. m. and 7 a. m., and for the second five days it

sult of the observations:

More bile was excreted during the hours of rest, that is, between 9 p. m. and 7 a. m., than between 7 a. m. and 9 p. m.; a greater amount was excreted in the 50 hours of rest than during the 70 hours when digestion was most active.

The greatest amount of bile excreted in 24 hours was nine and one-half ounces; this was a day following the administration of one-half grain of podophyllum, followed by a sedlitz powder.

The amount of bile excreted gradually increased from 8 p. m. until morning.

Calomel administered with the podophyllum did not increase the flow over the podophyllum alone.

The gall-bladder will hold only a percentage of the bile secreted during the quiescent period.

Case 2.—Patient aged 68. Cholecystotomy with drainage tube inserted. The bile was measured every two hours for twelve days, beginning at 6 a. m.

Deductions: The least amount of bile excreted in any 24 hours was during the days following the operation, when little nourishment was taken.

The greatest amount excreted between any given time was between the hours of 4 and 6 a. m., and the smallest amount between 6 and 8 p. m.

A saline cathartic will increase the flow of bile in three or four hours after its administration.

Podophyllum will increase the flow in from 12 to 18 hours after its administration.

Specific gravity of the bile was taken four times a day and varied from 1009 to 1014.

Case 3.—Patient female, aged 47. Cholecystotomy and drainage as in the other cases.

The bile was measured every three hours beginning at 6 a. m.

Deductions: The largest amount excreted was at the hours of 3 p. m. and 6 a. m.

The greatest amount excreted in 24 hours was after the administration of a saline cathartic, sedlitz powder and Apenta water.

Podophyllum and soda bicarbonate will increase the flow.

The increase in the flow of bile after the administration of these cathartics, I think, was due more to the activity they produced in the portal circulation than to a direct stimulation of the liver cells.

Conclusions: The secretion of bile is continuous during the 24 hours.

The greatest amount passes into the gall-bladder between the hours of 1 and 6 a. m.

Only a percentage of the bile secreted during the quiescent period can be stored in the gall-bladder, and it is not a necessary appendage.

Certain drugs increase the biliary flow—chiefly podophyllum and the salines; calomel itself does not produce a noticeable increase; the most perceptible increase follows the administration of saline cathartics.

The specific gravity varies from 1009 to 1014, being increased after taking solid food.

DISCUSSION.

A. J. ABBOTT, ALBION.

In the operative treatment of the bile ducts I have been interested more in a literary than practical way, *i. e.*, I have never operated on a case.

But to us in general practice the diagnosis of cases demanding operation is of importance. We are all impressed with the diagnostic importance of colic and jaundice, but the operations of recent years have shown that other

symptoms, mostly referable to the digestive functions, besides the signs of pain, tenderness, etc., are very important. Only in obstruction of the common or hepatic duct is jaundice an indication of trouble, and only as gall-stones pass through the ducts is biliary colic present.

It has been found by experiments that introduction into a healthy gall-bladder and ducts of pathogenic bacteria is not followed by infection so long as the normal free exit obtains; but when from any cause free drainage fails, infection occurs.

In forty-eight cases reported by Ochsner of patients operated on for disease of the gall-bladder and ducts, twenty-four had at the time of operation, or had had, appendicitis. Adhesions making partial occlusion of the ducts may result from appendicitis, salpingitis, typhoid fever or any other cause of peritonitis, thus favoring retention and infection of the hepatic products. A careful inquiry into the previous history in reference to these causes should be observed. I would mention lavage of the stomach as a means of relieving the pain of biliary colic. Removing the stomach contents relieves, in a measure, peristaltic effort and pain.

Although the experiments of Dr. McLean have shown that calomel is not an active cholagogue, yet I think some of us at least will not be deterred from using it in the so-called cases of biliousness.

I have been taught that calomel so increases peristalsis as to prevent the absorption of vicious matter, and by its antiseptic effect renders the alimentary tract sterile, and that it is for these reasons calomel is effective for good rather than by increasing the flow of bile.

O. S. PHELPS, BATTLE CREEK.

In the discussion of Dr. McLean's paper a very interesting thought relating to his observations in the use of calomel comes up, as to the real value of calomel itself. It is interesting to note that the salines have a much more decided effect upon the flow of bile than calomel, and one of our pet theories regarding the value of calomel has met with a decided Waterloo. However, the value of calomel along other lines seems very well demonstrated by some of our experiences as to its bacteriological effect, and in our hands no other remedy has proved so efficient in the control of decomposition in the alimentary canal, or in other words, has proved so valuable an intestinal antiseptic, as the free use of this classical old drug.

GRAND TRAVERSE COUNTY.

The Grand Traverse County Medical Society held its first annual meeting Jan. 7th, 1903, at which time the following officers were elected to hold office for 1903:

President—Dr. C. J. Kneeland.
 Vice-President—Dr. J. M. Wilhelm.
 Secretary—Dr. Frank Holdsworth.
 Treasurer—Dr. F. P. Lawton.
 Delegate—Dr. A. H. Holliday.
 Elective Directors—Dr. Rosenthal Thompson and Dr. H. B. Garner.

After business meeting the association members and their ladies were entertained at a banquet at Park Place Hotel.

Following the banquet those present enjoyed an interesting program, as follows:

1. Toastmaster's addressDr. A. S. Rowley
2. SoloMrs. A. S. Rowley
3. Reminiscences of Practice of Medicine
 in Early Days of Traverse City....
 ..Dr. Ashton, Dr. Kneeland
4. SoloDr. A. H. Holliday
5. The Doctor as a Politician.....
Drs. Chase, W. E. Moon and Lawton
6. Career of a Doctor in Public Institute
 LifeDr. A. S. Rowley
7. Struggles of a Young Doctor.....
Drs. Holdsworth and Winor
8. SoloMrs. A. H. Holliday
9. Army Doctor's LifeDr. Wilhelm
10. The Doctor's Wife. Her Joys and
 SorrowsAll the Ladies
11. Pleasant and Amusing Incidents in a
 Doctor's LifeDrs. Garner and Kemp

The meeting was one long to be remembered because at no time in this city's history have the physicians enjoyed themselves together in a social way as thoroughly as they did at this meeting, and it marks the beginning of greater interest in our society.

O. E. CHASE, Secretary.

JACKSON COUNTY.

The annual meeting of the Jackson County Medical Society was held Jan. 6, 1903. The following officers were elected:

President—N. H. Williams.
 Vice-President—D. E. Robinson.
 Secretary—R. Grace Hendrick.
 Treasurer—F. W. Roger.
 Delegate—D. E. Robinson.

The address of the retiring president, Dr. A. E. Bulson, comprised a review of the history of the medical profession of Jackson County.

Dr. F. A. Baldwin, of Ann Arbor, read an article on "The Etiology of Carcinoma With Special Reference to the Parasite Theory."

Dr. H. O. Walker, of Detroit, read a paper on "Observations Upon the Technique of Abdominal Surgery."

Dr. H. S. McGee on "Irrigation Treatment of Gonorrhoea."

The annual banquet in the evening was largely attended.

R. GRACE HENDRICK, Secretary.

LAPEER COUNTY.

The monthly meeting of Lapeer County Medical Society was held at the parlors of the Graham House, at Lapeer, Wednesday, Jan. 14, 1903.

PROGRAM.

1:00 P. M.

1. President's Address,
 Hugh McColl, M. D., Lapeer
2. Is Appendicitis More Frequent Now Than
 Formerly?
 John S. Caulkins, M. D., Thornville
 Discussion opened by C. A. Wisner, M. D.,
 Columbiaville.
3. Neurasthenia, Wm. J. Kay, M. D., Attica
 Discussion opened by Geo. W. Stone,
 M. D., Metamora.
4. Exophthalmic Goiter,
 Peter Stewart, M. D., Hadley
 Discussion opened by Geo. W. Jones, M. D.,
 Inlay City.
5. Vaccination, John V. Frazier, M. D., Lapeer
 Discussion opened by S. A. Snow, M. D.,
 North Branch.
6. Fibroids of Uterus,
 H. E. Randall, M. D., Lapeer
 Discussion opened by A. Price, M. D.,
 Almont.

H. E. RANDALL, Secretary.

ST. JOSEPH COUNTY.

The St. Joseph County Medical Society met at Three Rivers, Jan. 7th. The meeting was held in the rooms of the Amity Club, whose officers kindly tendered us the use of the club. The meeting was well attended. Seven new members were added. Dr. Knowles was elected delegate to the State Society.

The next meeting will be held at Mendon, Feb. 8th, 1903. All former officers were re-elected.

Fraternally,

J. R. WILLIAMS, Secretary.

VAN BUREN COUNTY.

The monthly meeting of the Van Buren County Medical Society was held in Hartford, Tuesday, January 13th, 1903, at 10 a. m. The following papers were read:

"Clinical Temperature," Dr. L. G. Rhodes.

"Infant Feeding and Milk Modification," Dr. Loren Curtis.

"Auto-intoxication as a Cause of Gingivitis," Dr. J. C. Maxwell.

General discussion.

N. A. WILLIAMS, Secretary.

WAYNE COUNTY.

SHOULD THE SPECIALIST DIVIDE HIS FEES?

DON M. CAMPBELL,
Detroit.

When our worthy president, Dr. Tibbals, and his able coadjutor, Dr. Moran, asked me to deliver a short paper under the above caption, I felt and do still feel that the subject is an exceedingly delicate one, and I would like to say in the beginning that, whatever the views promulgated and opinions advanced may be, they are entirely impersonal and must in all justice be considered in the light of a desire to further the best interests of the medical profession as a whole and not as applying to any individual case.

It has been said that when a certain historian,

*Read before the Wayne County Medical Society, Detroit.

engaged in detailing the progress of the inhabitants of the Emerald Isle, came to the chapter entitled "Snakes," he very briefly summed up the matter by remarking that "In Ireland there are no snakes." So, too, we might briefly state the case as far as Detroit is concerned that there are no specialists' fees in this city worthy of being divided, and, indeed, we would not be far wrong in the majority of cases.

The term "specialist," I apprehend, should in this connection be meant to apply to any medical man who is devoting his energies to the pursuit of a line of work in which the general practitioner feels a necessity for consultation or help in the management of his cases. The surgeon, the laryngologist, the rhinologist, the otologist, the dermatologist, the pediatricist, the gastro-enterologist, the proctologist, the ophthalmologist, the gynecologist, the electro-therapist and the consultant in internal medicine, are all included under the generic term "specialist."

There are two standpoints from which this question can be viewed by both specialist and general practitioner, viz.: First, from a purely professional, and, second, from a financial standpoint.

In other words, is the proposition before us for consideration to-night a good and proper thing, firstly, from a professional, and, secondly, from a financial point of view?

These two viewpoints must at the first blush, perhaps, appear to be entirely incompatible, and yet a closer scrutiny of the situation will show them to be entirely in accord.

It can, I think, be stated, without fear of successful contradiction, that the division of fees by the specialist and the general practitioner who has referred the case to him, when the question is viewed from the elevated moral ground of truly ethical and high-minded professionalism, cannot but be unequivocally condemned if those passing judgment on the subject were swayed alone and only by the high ideals which have been developed in the best elements going to make up the profession.

Nay, more, it can be affirmed that the general average of moral development in the profession, as a whole, must condemn for all time this bartering for gold that most precious thing in the treasure house of all physicians—the trusting patient's best confidence.

A patient goes to his family doctor for advice as to whom he shall consult for the management of his case, if it be beyond the skill of his physician; or the physician, realizing that he himself has not the facilities for the proper management of the case, says to the patient: "Go to Dr.

So and So, who is better equipped to do this work for you than I."

In the majority of cases the patient does not expect to pay for such friendly counsel, nor from a purely professional standpoint should it be demanded of him nor taken out of him in a round-about way.

In many instances the specialist finds it necessary to refer a patient back to the general practitioner for further continuation of constitutional treatment. In such a case should the patient be again soaked for another divvy?

So much for the question viewed from a purely professional standpoint.

Is the division of fees a good financial proposition for the general practitioner or for the specialist?

There can be no controverting the fact that, in these piping times of great prosperity, as well as in the more gloomy days of financial depression, the average man who has to have some professional work done goes about it in much the same way as in every other transaction involving a financial consideration. The question of cost plays a very important role.

To illustrate, let me give a hypothetical case:

In a certain community there are two general practitioners of about equal standing in the profession, Dr. A. and Dr. B., and they have somewhat about the same amount of business.

A patient comes to Dr. A. and states that she wishes to consult a specialist about the necessity of having an operation performed. The doctor takes an interest in her case and sends her with a letter of introduction to the specialist whom he is in the habit of patronizing.

The woman goes to the specialist, she is examined, and is told that she is in urgent need of surgical treatment.

This part of the transaction being settled, the question of fees comes immediately to the surface.

The specialist, remembering that Dr. A. always demands a percentage of his receipts from business referred, makes a rapid calculation in mental arithmetic, something like this: "My fee, \$100, plus Dr. A.'s rake-off, \$50, is \$150," and he says to the patient: "This is a \$200 operation, but on account of your coming from Dr. A. I will make the whole thing \$150 and do for you a good job."

The proposition is accepted, the work is done, and everybody is satisfied, at least temporarily.

But has this been a good, square transaction? Well, no; anything that cannot bear the searchlight of good, above-board dealing can be set

down as wrong and in reality dishonest. Neither Dr. A. nor his specialist confederate would for one moment dare to let the patient or her friend know the inside workings of that transaction.

Dr. B. has a similar case, but, not being a "rake-off man," he sends his patient to a specialist who does not have to employ mental arithmetic in his calculations and charges the patient \$100. Again all is well.

A third patient, from the same locality, wanders into the office of Dr. A.'s consultant with a similar condition of affairs, and in this case the specialist is not weighted with the mental strain of a numerical calculation induced by Dr. A.'s letter of introduction, and charges this patient the legitimate fee of \$100. Again everybody is satisfied until, at some tea fight, these three ladies get together and begin to compare notes, the result of which is that they all think there is something queer about the transaction, and, if the story be frequently enough repeated, very soon Dr. A. will cease to have the opportunity to throw business to his mathematical consultant, and the people will not be slow to see that it is cheaper to go directly to a specialist instead of first filtering through the hands of such a family doctor, or at least they will be sure to avoid a general practitioner who has a reputation for sending his patients to the "expensive" specialist.

So one cannot but feel that from a financial, as well as from a professional viewpoint, the division of fees is not, to say the least, a success.

Interested in the proposition before us to-night are three people: (1) the patient; (2) the general practitioner, and (3) the specialist, and perhaps it might be well for us, ere finally making up our minds as to the proper way to view the matter, to look at the question calmly and dispassionately from the viewpoints of each of these component parts of the transaction.

The patient, when he or she places enough confidence in the family doctor to seek his advice as to what specialist shall be consulted, feels that the doctor will give the best advice he can and refer her to a man who will do the work in a satisfactory manner and at a cost commensurate with circumstances and financial standing.

If this system of the division of fees should become at all universal, the general practitioner, being only human, as we all are, would, in the course of time, have his judgment warped in favor of the specialist who paid the highest percentage, and not in favor of the one who would do the work best and at the same time have some consideration for the financial status of the pa-

tient. In this connection I do not wish to be understood as saying that all would do this, but undoubtedly, in the course of time, with the restraint of custom removed, many would.

The conclusion is perforce borne in upon us that from the standpoint of the patient the division of fees would be a decidedly undesirable thing.

Viewed from the side of the general practitioner the proposition looks something like this:

There are many general practitioners who would not be warped in their judgment by the money consideration in the case, but all must of necessity admit that there are many in the ranks of the profession who would be undoubtedly influenced by the wiles of the seductive \$25 or \$50 rake-off, and the quest for operative cases would be more than even now is the case.

Internal medicine and the conservative treatment of many diseases now well handled by such means, would be handed over to the surgeon by those over-zealous advocates of surgical intervention, and many unnecessary operations would be performed.

Here it seems to me is the proper place to refer to a phase of the subject that should not be neglected in the discussion, and that is that the general practitioner has some valid claims to the patient even after he has been turned over temporarily to the specialist.

The latter should feel it his duty to send the patient back to the general practitioner as soon as he is through with his special management of the case, and any specialist who does not perform that courtesy to his consultant is unworthy of support at the hands of the profession at large.

There are some instances where the general practitioner has been put to trouble and expense in handling the patient before, or accompanying him to the specialist, in staying to see the patient through the operation, rendering assistance or administering the anesthetic.

For these services the general practitioner should be paid. Right here is where the specialist who pays commissions for business sent him has his back door escape of justification and works it for all it is worth.

Nobody will deny that general practitioners should be paid for those services, but the crucial point is, who should pay him?

Why, undoubtedly the individual for whom he performs the service, viz., the patient.

If the general practitioner is not up to his business enough to make the charge, he should not look to the specialist to make good his lack of financial acumen.

The patient should pay, and he should know for what he is paying in such a case.

So from the standpoint of the general practitioner who is onto his job from the financial side of the question, one must say that he should be paid for whatever services he actually performs, and that for such services the patient should knowingly pay.

From the standpoint of the specialist any transaction calling for the underhand paying of a commission looks like an undesirable performance, for he must either give away money which he feels he has honestly earned by his skill, or he must surreptitiously levy a tax on the unsuspecting patient. Either horn of such a dilemma is distasteful to a self-respecting and upright man, I care not whether he calls himself by the name of general practitioner or specialist.

In the performance of professional work in medicine and surgery there is a certain unwritten law of action which should be lived up to by every self-respecting member of the medical profession, and while this standard is very difficult to definitely lay down in rules and regulations, still its operations are as unvarying as the laws of chemistry.

One of these standards of professional attainment is that no reputable physician shall advertise nor employ any advertisers to help sell his professional wares, excepting that which legitimately comes to him through the performance of good, conscientious, hard work, and the building up of his reputation therefrom.

In business there are many means of advertising which are not open to the use of reputable and self-respecting medical men.

Such means are newspaper and magazine advertising, and the employment of such means as band wagons and tail-board oratory to the gaping and wide-mouthed credulity of the average man.

Nor is it legitimate that a doctor should employ paid agents to go out and drum up business for him.

But will you please tell me what earthly difference there is between a doctor paying a regular commercial drummer to go out and solicit trade for him and employing another doctor to drum up business for him at a 50 per cent. commission?

There is not one iota of difference, excepting that the man who goes to the newspaper, inserts a glaring advertisement and promptly pays the paper for this advertising matter, is performing a legitimate business transaction in an above-board and honest manner and he is not prostituting himself, his profession, and the general practitioner by attempting to do the same thing under

the cloak of hypocrisy, appearing to be one thing and in reality being another, using the cloak of professional membership to hide his shady work.

No, ladies and gentlemen, the comparison is altogether in favor of the out-and-out quack who pretends to be nothing but what he really is.

We have at our very doors an example of what the profession at large think of these practices.

In Mt. Clemens the profession for years was hampered by the paying of fees of 50 per cent. to drummers whose business it was to meet patients on trains coming into the city and steer prospective patients to their respective doctors.

For this service the drummer received 50 per cent. of fees paid.

About a year ago nearly all of the physicians of Mt. Clemens banded themselves into a society whose object it was to do away with this nuisance.

Some, however, did not join the society, and still continued the nefarious practice, and were somewhat severely dealt with by the Michigan State Medical Society at its recent meeting in Port Huron for so doing.

It is said on good authority that the American Medical Association has refused to hold a meeting in Hot Springs, Arkansas, because the profession of that city was so riddled by similar practices.

So you see both our state and national bodies condemn in no uncertain tones such practices.

Are we to-night chasing a myth? Is there any such a thing in Detroit as the division of fees by specialists with general practitioners?

Let me in answer to this question briefly outline two bits of conversation which I recently heard, one through a professional friend who I am glad to say was proof against the wiles of such bribery, and the other through a professor in one of the largest universities in these United States.

CONVERSATION NO. 1.

This doctor was met on the street by a specialist of this city, who said: "Doctor, do you ever get any money for sending patients to specialists in my line?"

"No, I do not," replied the doctor.

"Well, I tell you, anything you bring me will net you 50 per cent. of all I receive from the case," was the final remark of this enterprising specialist.

CONVERSATION NO. 2.

Occurred on a railroad train coming into Detroit and was between the professor and an alumnus of the aforesaid university.

"Well, doctor," said the professor, "where are you bound for?"

"I am taking a patient into Detroit for operation," said the doctor.

"Why do you not bring your cases back to your alma mater?" interjected the professor.

"Well, I'll tell you, professor, why I don't do it: If I take a patient to you at the university, that is all the good I get out of it, and you get nothing, and the patient is a charge on the state."

"Now, this man is willing to pay \$100 for his operation, and I will go home with \$50 of it in my pocket."

Could there be more positive proof that such a thing is actually among us here in Detroit?

From whence has this nefarious practice sprung?

As I have said before, there are three parties to the transaction, and we must look to one or all of these to explain its presence among us.

The patient's part in the transaction can be very quickly dismissed, as of course nobody would perpetrate a fraud on himself, especially one which is most expensive and dangerous.

So the honor of originating such a procedure must lie between the rake-off general practitioner and the commission specialist.

In order to determine which of these two worthies is the original in the transaction I have indulged a little in statistics.

I have gone over my case books for the last 12 years and therein I find that during that period I have made records of 3,588 patients referred to me by 395 different doctors.

Now, then, from among so many general practitioners sending me so many patients, you would expect to find a goodly number demanding a division of fees if it was at all a common thing for the general practitioner to make such a demand, but when I tell you that during all those years and from among all those doctors bringing such a number of patients, only one single doctor has demanded a commission, you will readily realize that it is not from among the ranks of the general practitioner that this practice has originated.

We are then forced to the conclusion that the idea must have originated in the fertile brain of some specialist who was willing to take this unfair advantage of his more honorable and square dealing brother; furthermore, there is no doubt that the thing is perpetuated by forces emanating from the same fruitful source, abetted and helped by a general profession which to some extent at least has been prostituted by the commission specialist in the too ardent pursuit of the almighty dollar.

For all this mess is there any remedy, any pool of Bethesda into which we can dip the dirty linen and make it clean, pure and white again—any cleansing blood that can be shed for the renegade doctor who is not true to the traditions of his profession?

Ah, there is the rub. It is easy to be analytic but hard to be synthetic, easy to act the part of the iconoclast, but difficult to be a reconstructionist and repair the damage done.

I do not think I can do better in this connection than to quote from a paper by G. Frank Lydston, of Chicago, entitled: "Further Remarks on the Bisection of Fees, Surgical Drummers and Drumming Surgeons," in which he sums up the financial relationship of patient, general practitioner and surgeon as follows:

1. "A general practitioner and a surgeon may form a co-partnership out and out and announce the fact, presenting joint bills for services.

2. "The specialist may present a joint bill which claims a fee for combined services, the general practitioner and surgeon each receiving his fair and just proportion of the fee, adjusted according to services actually rendered by each.

3. "The general practitioner may conduct all the financial negotiations with the patient, call a surgeon to operate and pay him whatever is agreed upon between the two physicians. Here the general practitioner presents a bill which is understood by the patient to be the bill for joint services.

"If the patient is satisfied with the total amount he is not likely to concern himself with the arrangement his physician has made with the operator.

"If the surgeon is satisfied with his fee, it is a matter that concerns nobody else.

4. "There are cases in which the general practitioner may render honest and competent assistance to the surgeon. Here a joint bill should be rendered."

The only criticism I should make on these conclusions is that in division No. 3 the bill should detail the amount paid to the surgeon for his services.

In conclusion I would say to the patient, avoid by all means the "divvy doctor" and his "commission consultant," because they will do you good and brown.

To the specialist I would say that the way to build up an enduring and steadfast clientele is to not only do good work for your patrons, but send them away satisfied with the financial as well as the professional side of the transaction.

To the general practitioner I would say, do not

betray the best interests of our noble profession for a few paltry "divvies" offered by some designing specialist who cares not an iota for you excepting for what he can get out of you, and, above all, do not forget that as far as Detroit is concerned, "There are no snakes in Ireland."

DISCUSSION.

EMIL AMBERG.

There seems to exist some hesitancy to open the discussion on the subject. I am rather surprised that a paper of this character is read at the present time. Dr. Campbell said that a reputable physician should not advertise. Recently, a college professor told a colleague that the specification of his practice on the window savored too much of commercialism. He was told that it did not more so than the advertising of a college professor in college announcements and hospital reports. The professor said he never thought of it in that way. Well, he may think a little more. Dr. Campbell spoke of drummers, paid and unpaid. What are many graduates else than unpaid drummers? Somewhere they have been called suckers. I feel very keenly on the subject. The college professors steal the bread out of our very mouths. I agree with the doctor that fees should not be divided, and I do not think that the practice is very much indulged in, in Detroit. The attitude of the profession has been defined by a resolution of the house of delegates of the American Medical Association, if I am correct. First, let the members of the profession be not only physicians, but also gentlemen, and there will be no more occasion for a discussion of this character, which seems to me to be somewhat premature. I almost feel like suggesting that the discussion be postponed for five years.

W. T. CODY.

I sometimes wonder whether we have any real specialists among us—that is, those who confine themselves wholly to their specialty and do not encroach more or less on the work of the general practitioner, although personally I have never had any unpleasant experience with those whom I have called in for special work.

When we hear so frequently of this specialist in eye and ear treating such general diseases as typhoid fever, and another specialist in surgery or skin diseases treating pneumonia, etc., we can scarcely be blamed for desitating about sending

our cases of ovarian tumor, mastoiditis, etc., to the specialist, and, unfortunately, our patient is the one who is most apt to suffer because of this lack of confidence. Let the specialist confine himself wholly to his specialty, and then resolve that there shall be no divvy of fees on the work he does.

H. W. LONGYEAR.

I wish to congratulate the essayist on the excellence of his paper and compliment him for the courage he has shown in bringing this subject before us.

In this age of sharp competition many would-be specialists find the old way of advancement by means of excellence of work and thorough preparation too slow, and so they resort to this shoddy method to get business quick. It no doubt reverts to their advantage for a time, but in the end it must necessarily be disastrous not only to the physician who stoops to it, but to the whole profession as well, as he will sooner or later be held in contempt for it by his professional associates, and the moral tone of the profession will be lowered and its influence lessened among the people. To divide fees without the knowledge of the patient is either right or wrong—honest or dishonest. The American Medical Association has declared in no uncertain terms against it, and this society should do the same.

In my practice I have encountered very few general practitioners who have asked for a division of the fee, but a number of general practitioners have told me of having received offers from certain surgeons to divide fees if they would send their patients to them, so that I think the evil starts from the specialist and not the general practitioner.

L. J. HIRSCHMAN.

I would like to suggest a remedy for this condition of affairs. We must strike at the root. The trouble is that there are too many practitioners, and they are not properly paid. I would submit four remedial agents, which, properly combined, will cure the condition. First, there are too many weak medical colleges. The State must raise both the entrance requirements and the graduation requirements as well. This would shut off the enormous flood of poorly-equipped men, who, failing to acquire a legitimate income from their practices, must come to us, begging some of our surplus (?) to help them out. Second, we must

require every graduate, no matter where from, nor what college has issued him a diploma, to pass a State Board examination. Thirdly, the generally practitioner must receive proper remuneration for his services. A surgeon will receive upwards of \$150 for an operation for appendicitis, which requires but three weeks after-treatment, and that in a hospital, while the general practitioner will treat a typhoid patient for eight weeks, traveling miles in all kinds of weather and carrying all the *anxiety* and care, and if he gets seventy-five or a hundred dollars, the patient thinks he is paying an enormous fee! Lastly, if you general practitioners would send *every patient* his bill *every thirty days*, as I do, and insist on the payment of the *entire bill* (not shaving off a third or a fourth for "spot cash") your incomes would be more in proportion to the work done, and the sorry spectacle of auctioning off your consultation and operative cases to the highest bidder in order to make both ends meet, would be a thing of ancient history.

J. H. CARSTENS.

Every physician on graduating takes the hypocratic oath, "that the highest ultimate good of the patient should be his constant endeavor," and every physician who asks for a percentage or who pays a percentage breaks that oath and is a perjurer, because the practitioner who takes his patient to a specialist who pays a percentage breaks that oath because he does not take his patient to that *specialist who is the best*, because the best do not pay a percentage, but he takes his patient to some second or third class man or some one who wants to establish a reputation; some specialist who has taken the six weeks' post graduation course and now blooms out as a specialist. Not only that he takes that at the start, but he grows; where he first wants twenty-five per cent., he wants fifty per cent., he wants half the fee, he wants three-quarters of it, and if the first man rebels he goes to a poorer stick who is willing to give more. It also grows in another direction. In cases that he never thought required the services of the specialist, all at once require consultation and perhaps operation. The patient who can pay a moderate fee, all at once is found to be able to pay a very large fee, and so it goes on from bad to worse. Patients get the poorest service for the biggest price. They are robbed; it is downright swindle of the worst kind, and no reputable physician will submit to that. But they are known; the man who pays percentage and the man who asks percentage,

They are spotted, you can point your finger at them, and it is being done, too. They soon reach the limit.

As I have given up a large general and obstetric practice, it is distributed all over the city among the physicians, and they are now receiving a percentage in advance. They are every year taking in more or less because *I am not competing with them*.

The doctor from the country who brings a patient from a distance certainly is entitled to a fee for bringing the patient here, but the patient must pay him, and *he must make* the patient pay. It is perfectly absurd for him to do it for nothing. He will get no thanks for it, but if he is afraid to ask for it, I will help him. If people cannot pay much I am willing to make my fee smaller in order that he can get pay for the service he does, but I want the patient to pay him, directly, honestly, straight and above board.

I want the fee which is just myself, and according to the patients' ability, as near as I know their financial standing.

This question on division of fees is a very serious one indeed. We ought to uphold the honor and the dignity of the calling. There are some things in life which are worth more than money. *One is professional honor.*

MORTALITY IN APPENDICITIS—ITS CAUSE AND LIMITATIONS.

A. J. OCHSNER, CHICAGO.

On December 18, Dr. A. J. Ochsner, of Chicago, read a paper on "Mortality in Appendicitis—Its Cause and Limitation." He said that all cases of appendicitis should be operated on during the first twenty-four hours, if possible. After such a period it is not always advisable. He cited several cases which he believed to have been lost by operation, due to the additional traumatism in an already inflamed region. In such cases the author believes that nature, if favored, will often do more towards a cure than can an operation. There is no place in the abdomen which is so capable of taking care of the infecting organisms as is this region, when infected, if the omentum is allowed to seek the point of infection. This is the reason why cathartics and food should be withheld so that the omentum is not obliged to seek several points of infection after the bowels have thrashed about and dis-

tributed pus throughout the abdominal cavity. The treatment advised is to operate when you think an operation will be beneficial, during the first twenty-four to thirty-six hours. After that time the stomach should be washed out if there is nausea, and all food *per orem* should be withheld. Nourishment *per rectum* is given. As soon as the severe inflammatory symptoms subside, an operation is considered. The author showed, by charts, that there is a marked diminution in leucocytosis under this "starvation" treatment.

Dr. Ochsner believes that his "starvation" treatment has been misunderstood, hence the unfavorable reports from many observers. Under his personal supervision the mortality of his cases has been greatly reduced.

DISCUSSION.

ANGUS M'LEAN.

Everybody is agreed that the proper thing to do in appendicitis, up to the first three days, or where the disease is confined to the tissue of the appendix, is to remove it. It requires judgment when the appendix has ruptured and an escape beyond the walls of the appendix has taken place. He has had little experience with the treatment advised by Dr. Ochsner, but hopes that it will reduce the mortality of appendicitis.

J. H. CARSTENS.

The subject resolves itself around what is called rupture—whether one can diagnose a ruptured appendix or not. Among the general practitioners an erroneous impression of the treatment has gone abroad. The result is that the treatment is being attempted all over the country, and the mortality is increasing. Eight or nine years ago it was universally admitted that the correct and only treatment was immediate operation, as soon as the diagnosis was made. The mortality was low. Then this starvation treatment appeared, and under its usage statistics will show that the mortality has been higher. Dr. Ochsner has answered this by saying that the men using it have not known how to treat such cases according to the starvation method. They have either given the patients something to eat, or did not wash out the stomachs, and there has always been some excuse. These are facts. The patients are allowed to jog along until the case becomes desperate. The case is then operated on and the patient dies, and of course it is the operation that is at fault; it is never the starvation treat-

ment. Dr. Ochsner is now trying to educate the physicians of the country to carry out this starvation treatment properly. No doubt, if carried out in some hospital and under Dr. Ochsner's supervision, the treatment is good, but my objection is that it goes out to the general practitioner as a good method of treatment. If the profession would know that appendicitis is a surgical disease and that it should be operated on promptly, the mortality would be far less than it is now.

T. A. M'GRAW.

A trial of the treatment, after having heard it advocated by the essayist, resulted fatally in three out of four cases. He is not certain that the treatment was properly carried out, and proposes to test it further under more favorable conditions. The treatment has the effect of preventing early operations, and in so far the idea does an infinite amount of damage. His feeling has been that wherever there is a gangrenous, or perforated appendix, the pus within should come out, and the sooner the better. It would be a great mistake if aught that has been said should lead to the result of postponing operations, that should be made, until the septic stage is reached.

H. O. WALKER.

Having been a witness a number of times to Dr. Ochsner's operations, there can be no question about the statistics. They are honest, truthful statistics. The profession, evidently, throughout the country, did not interpret correctly, and that is where the difficulty has arisen in regard to the early operation recommended by Dr. Ochsner. There is another thing to be taken into consideration: it is the technique. Dr. Ochsner's technique is ideal; that is undoubtedly wherein lies his great success in his operations. There are, undoubtedly, just as Dr. McGraw has said, those of us who have tried Dr. Ochsner's treatment and have not tried it right. Dr. Walker feels about the matter just as Dr. Carstens has felt, but there cannot be any question about these statistics. Dr. Ochsner tells us the truth. The general practitioner should understand that Dr. Ochsner says to operate early, and the mortality is almost nil.

E. G. KNILL.

It must be decided whether the germs are going to spread throughout the abdomen. If it is certain that there is a gangrenous appendix, one

cannot understand that a patient should live unoperated upon. He does not believe any treatment of starvation would help such a patient.

J. FLINTERMANN.

If we have an uncomplicated case of appendicitis that has come to our hands within the first few hours after the first symptoms have shown themselves, if we follow Dr. Ochsner's recommendations we shall not make any mistake in consenting to an early operation. The general practitioner who has the good luck to be called in shortly after the first symptoms appear will know whether the case is fit for an operation or not at that time. The starvation treatment is certainly not of any harm to be instituted before you call in the surgeon. For instance, the country practitioner, who is not able to make an operation right away, if he follows the lines laid down by Dr. Ochsner will certainly make no mistake. If he puts the patient to rest and does not give him anything to eat nor drink, and gives him no cathartic, the surgeon will find that man well prepared for the operation.

DR. LETTS.

He has followed the operations of Dr. Ochsner for ten years or more, and has no fault to find. The general practitioner has not a thorough knowledge of what Dr. Ochsner wishes him to carry out. The doctor has practised the methods, and has not had one fatal case.

The union of the profession in Wayne County has been so successful and harmonious that the size of The Wayne County Medical Society has demanded a hall for meetings. The general meeting of Dec. 11 was the first to be held in the new rooms in the Stevens Building, when, after the regular order of business, a buffet lunch was served. On Dec. 8 the first section meeting in the new section room was held.—It has been most gratifying to note the enthusiasm which has been shown in all of the meetings since the reorganization, as expressed by the average attendance, the high standard of the papers, and the lively discussions. Not only has this been true of the general weekly meetings, but also of the section meetings. May it continue.—The total membership of the Society is now about 300, with new enrollments being made daily, so that by

the end of this year it is expected the 500 mark will be reached.

At the general meeting of The Wayne County Medical Society held Dec. 18, the following report of the committee on legislation was received and accepted:

The Wayne County Medical Society, of Detroit, has appointed a committee on medical legislation in order that the medical profession of the County of Wayne can keep in close touch with any legislative measures which may affect the public and the medical profession. Undoubtedly measures will come up during the next session of our legislature which will demand the attention of the medical profession. One of the great objects of the reorganization of the State Medical Society will be furthered by keeping the medical profession of the State continually and thoroughly informed on matters which enlist their interest. In order to accomplish this purpose the committee on medical legislation of the Wayne County Medical Society recommends:

That communications be sent to all other county societies in the State with the request that these societies appoint similar committees.

FRANK D. SUMMERS, Chairman,
E. L. SHURLY,
EMIL AMBERG,

Committee.

HUGH MULHERON,
Secretary.

Communications.

THE M. D. TITLE IN GERMANY.

In the January issue Dr. George Dock tells us of the new requirements in Germany to practice medicine. One understands that the title of "Approbirter Arzt" is sufficient for the medical practice; and perhaps the readers of this journal would like to know what is needed to receive the title of Doctor Medicinæ.

The trouble and costs summed up are: A kind of a sham examination, 440 mark for the university (about \$110), the costs of printing a dissertation, and a fine dinner after the defense of a thesis.

The "Approbirter Arzt" who wants to receive the degree of M. D. (de promovendus or doc-

torandus) commences with giving to the rector magnificus a self-made, clearly written dissertation (essay) about a medical subject, anything he chooses. By the way of a post-scriptum, the candidate has to add a short curriculum vitæ, and his religious creed besides the social position of his parents. Furthermore he has to show from which clinics or laboratoria he has gathered the contents for his essay and who assisted him by the work, all this in the form of a sworn affidavit. This has to be accompanied by 220 marks (\$50).

As a rule the doctorandus learns after a couple of days that his essay is accepted, and he is invited by the rector magnificus for a colloquium. That colloquium is amusing.

In some room, the doors closed, the candidates and jury members relish a fine repast and some bottles of wine, offered by the rector magnificus. One is there all "en petit comité:" three members of the faculty and two or three doctorandi.

According to the rules the conversation has to be about medical subjects. Pro forma, the jury gives to the candidate a "satisfecit," and the candidate has the kindness to offer once more 220 mark to the faculty and 100 mark to his publisher for the pleasure of printing 315 copies of his essay for the members of the faculty.

From now on, the doors of the Aula are open to him, to solemnly defend his essay and to receive as a reward for his work a big red tin box with his diploma in it. This third and last part of the promotion is the disputatio.

It's noon: the fixed hour for the dissertation. First come some students, then the promovendi in evening dress and white gloves, and followed by their three opponents. These opponents, one understands, are not dangerous. As a rule they are three good friends, who the day before have dined with the candidate and received in writing the objections to be made during the essay. However, any one from the auditorium has the right—ex corona—to take the stand and harass the candidate with questions. Hardly ever do they make use of this right.

Silentium! There comes through the big door a man with long, white hair, dressed in a red mantle. It is the rector magnificus. He takes his place in an easy chair near the podium, where our candidate is already seated, who now addresses the rector as follows:

"Tentamine physico, examine rigoroso, feliciter superatis jam restat, ut summi qui sunt in medicina et chirurgia honores in me transferantur; quare dissertationem scripsi germanica lingua thesesque apposui tres quas ad defendendas peto

abs te Decane spectatissime. ornatissime ut mihi lingua germanica uti liceat."

(The promovendus f. i. be a Russian.)

And what will the Decanis ornatissimus answer but:

"Autoritate facultatis medicae do tibiveniam quam petisti."

The reader will observe that the candidate, after having called his dissertatio scripta in lingua germanica, afterwards cunningly makes an allusion to: theses tres quas apposui. These theses tres are three of his own choice, which the doctorandus adds to his essay and which are the only ones to be discussed.

Then, without caring a bit for his essay, the promovendus now says aloud:

"My first thesis is, that in the treatment of syphilis, injections with insoluble mercury salts are preferable to all other ones."

The first opponent now takes the stand opposite the podium from where the doctorandus has flung his thesis into the world. He has learned his objections by heart, of course, and it is really amusing to see how he attacks.

The defense, which has been prepared in advance, is no less clever. It is even of such a nature that the opponent can say only:

"Well! I am satisfied with your answer in all respects."

So it goes with the two other theses. Not without pretense the doctorandus now addresses respectfully the rector, to whom he says the following:

"Tacente corona, adversariis devictis peto abs te, decane spectatissime, ornatissime, ut summos qui sunt in medicina et chirurgia honores in me transferas."

Whereupon the Decanus ornatissimus answers gravely:

"O candidate ornatissime et dignissime, tentaminibus et examine rigoso feliciter absolutis, petisti ab ordine medicorum ut summi in medicina et chirurgia honores in te transferantur. Dissertatione cum thesibus contra virorum ornatissimorum argumenta disserte docteque defensis, nihil obstat enim quin lauream doctoris aspicias. Priusquam autem haec tibi tradi possit, necesse est jurejurando te obstringi in cuius praecepta strictissima a te observanda curatis."

Hereupon the doctorandus declares with a firm voice:

"Jusjurandum Doctoris medicinae (Protestants and Roman Catholics).

"Spondeo juroque, non mei me commodi causa medendi artem facitaturum, sed ut Dei gloriam

celebrem, ut hominum tuear salutem, ut quantum queam, ipsi doctrinae incrementi afferam; cuncta medici munia, summa cum fide et religione, quantaeque valeam, peritia et prudentia executurum; laborantium cuivis, nullo discrimine aut delectu, ambitione nulla, sive sit inops sive dives, pari industria subventurum; nullius unquam hominis vitam ancipiti tentaturum experimento; non ad vana aut sordida medicinae usum deflexurum indefesso studio in exploranda cognoscendaque arte perseveraturum; socios artis humanitur, amiceque et uti ipsa artis dignitas postulat, tractaturum promptissimoque animo neque ullo utilitatis propriae respectu, quidquid possim facultatis, cum illorum studiis in aegrotantium saultem consociaturum, omninoque id operam daturum, ut, quam profiteor artem ad religionis sanctitatem adducam. Ita me Deus adjuvet et sacrosanctum ejus Evangelium."

The Jews say, instead of the last sentence:

"Ita me aeterna salute impertiat Deus."

The turn comes now to the rector, who answers in a paternal style:

"Quod felix faustumque sit quod patriae prodesset jubeat Deus optimus auctoritate et auspiciis Guilelmi imperatoris Germanici, Borussiae regis potentissimi, justissimi, clementissimi, et ex decreto facultatis medico ego doctor, medicinae professor publicus ordinarius facultatis medicae, hoc tempore decanus, te doctorum medicinae et chirurgiae creo, creatum renuntio renuntiarum proclamo.

"Absolutis absolvendis, ascendas in cathedram superiorem, quae est doctorum."

And really, the candidate now, guided by the rector's hand, leaves the lower podium and climbs another higher one, "quae est doctorum."

There he receives from the hands of the rector the diploma in a scarlet-covered box, whereby the rector adds these solemn words:

"Salve, vir doctissime, doctor dignissime, gratulor tibi honores in te collatos; trado tibi diploma facultatis sigillo medicae obsignatum. Munus quod auspiciatus es bene geras et feliciter peragas. Vale!"

Whereupon the candidate, moved to the depths of his soul, answers:

"Gratias ago tibi, decane spectatissime, ornatissime, quod summos qui sunt in medicina et chirurgia honores in me transtulisti: gratias ago vobis amicissimi, qui mihi tam fortiter quam sagaciter opposuistis! Gratias vobis qui honoris causa adfuistis! Vale! Valet!"

DR. VAN NOPPEN,
Niles.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

OFFICE OF THE SECRETARY, 103 DEARBORN AVE.

CHICAGO, January 3, 1903.

DEAR DOCTOR:

Since the formation of the American Medical Association the fundamental principle has been that membership should depend on membership in an affiliated state or territorial association, or in one of its subordinate branches, of the state or territory in which the individual resides. In the reorganization adopted at St. Paul, in 1901, this principle was emphasized, but not changed. For many years, however, this has not been enforced for the reason that no system of reporting or verification of membership under the old conditions was possible. The result has been that an individual might become a member of the A. M. A. while a member in good standing in an affiliated body, but later withdraw from the latter, or be dropped or expelled, and yet still remain a member of the A. M. A. Hence, there are on the list of members of the latter some from every state and territory who do not belong to their state or territorial society, or any of its branches. The plan of organization now going into effect will prevent this anomalous condition in the future.

Meanwhile it becomes necessary to ask each one who is on the membership list of the American Medical Association and who is not a member of his State Association, or one of its subordinate branches, to unite with such by March 1, 1903. This is in accordance with the following resolutions adopted by the House of Delegates of the American Medical Association, June 16, 1902:

Resolved: 1. That the Secretary of the Association shall complete the verification of the list of members on the plan already begun, and obtain, so far as possible, correct information from the members themselves and from other sources as to the qualification of every person who now claims membership in this Association.

2. That all those who now claim membership and who are not eligible according to our laws shall be notified by the Secretary of such fact, and that they must furnish satisfactory evidence of their qualification for

membership as required by our laws on or before Jan. 1, 1903.

3. That not later than March 1, 1903 the Secretary is directed, after notification, to drop from the roll of members all who are not eligible to membership in this Association.

4. That the word "local" in line 9, Section 3, Chapter I, of the By-laws, shall be construed, in this connection, to apply to the state organization, or one of its recognized branches of the state in which the person holds his legal residence.

5. That a member of this Association removing from one county or state to another may continue to hold his membership in this Association for a period not to exceed two years, without joining an affiliated society in his new place of residence; provided, however, that during this time he retains his original membership in the county or state society from which he removed.

Section 3, Chapter I, of the By-laws of the A. M. A., referred to in the resolution, is as follows:

Section 3.—No individual who shall be under sentence of expulsion or suspension from an affiliated society (whether a directly affiliated state or territorial society or an indirectly affiliated local society) of which he may have been a member, or whose name shall have been dropped from the rolls of the same, shall be received as a member or shall be allowed to continue as a member of this Association, until he shall have been relieved from said sentence or disability by such society; nor shall any person not a member of his local affiliated medical society, provided there be such a one, be eligible to membership or be allowed to continue as a member in the American Medical Association.

This circular letter is sent to each member of the A. M. A. whose name is not found on the membership list of his state or territorial association, or any of its branches, and is an official notification, in accordance with the above resolution, that such member's name will be stricken from the roll of members of the A. M. A., March 1, 1903, unless by that time he shows that he is entitled to such membership.

GEORGE H. SIMMONS,

Secretary American Medical Association.

PRELIMINARY ANNOUNCEMENT OF

The Next Annual Meeting of the State Society

The attention of the members of the Michigan State Medical Society is again respectfully invited to the Annual Meeting of the Society to be held at Detroit, Thursday and Friday, June 11th and 12th, 1903.

Voluntary papers are hereby solicited, and each member who contributes is requested to send the title of his paper to the Secretary of the Section before which he desires to present it. Each paper is limited to fifteen minutes and the title is to be sent as early as possible, **not later than April 1st**, to the respective Secretary of Section.

DR. WILLIS S. ANDERSON, 912 Chamber of Commerce, Detroit,
Secretary of Section on General Medicine.

DR. W. A. SPITZLEY, 270 Woodward Avenue, Detroit,
Secretary of Section on Surgery, Ophthalmology and Otology.

DR. CASPER K. LA HUIS, Kalamazoo,
Secretary of Section on Obstetrics and Gynecology.

It is requested that an abstract of each paper, *not to exceed one hundred words*, be furnished the Secretary of the respective Sections by **May 1st**.

No paper, the title to which has not been sent in by **April 1st**, can be presented at the Annual Meeting in June.

DETROIT, MICH., March 2, 1903.

A. P. BIDDLE, Secretary.

the 1990s, the number of people with a mental health problem has increased by 50% (Mental Health Foundation, 2000).

There is a growing awareness of the need to address the needs of people with mental health problems. The Department of Health (2000) has set out a vision for the future of mental health care, which includes a commitment to 'improving the lives of people with mental health problems'. This vision is based on the principles of recovery, which are: (1) the belief that people with mental health problems can lead a full and meaningful life; (2) the belief that people with mental health problems should be given the opportunity to participate in decisions about their care; and (3) the belief that people with mental health problems should be given the opportunity to contribute to their community.

Recovery is a process, not a destination. It is a journey that begins when a person with a mental health problem decides to take control of their life. Recovery is a process that involves working with a mental health professional to develop a plan for recovery. Recovery is a process that involves working with a mental health professional to develop a plan for recovery. Recovery is a process that involves working with a mental health professional to develop a plan for recovery.

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The Official Organ of the State and County Societies of Michigan

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Original Articles

*THE SANITORIUM TREATMENT OF PHTHISIS PULMONALIS.

E. L. SHURLY,
Detroit.

I employ the term phthisis pulmonalis in order to include all the chronic pulmonary affections—tubercular and non-tubercular, excepting asthma, emphysema, neoplasms and cardio-pulmonary diseases.

In approaching this subject, I am well aware that it is at the present time a very popular one with the profession and undoubtedly deservedly so. However, in this, as in all other reigning intellectual concepts, the pendulum of approval may swing too far. I mean by this first, that we may unconsciously be led to advise patients into these institutions who ought to be kept out, and second, we may be led into recommending the erection of too

many of them and at improper locations. An inordinate zeal, as you well know, may sometimes lead the most stable of us into following an ignis fatuus.

There is a strong tendency in all human pursuits now-a-days to ignore human experience. Undoubtedly there is valid reason for it in some respects, because experience is simply the result of adjusting our inner consciousness with the observation of the passing external events or phenomena, and the registration of the same, yet an experience which comes of solid ratiocination over the phenomena of cause and effect is often more cogent by far than simple demonstration to the senses. In thinking the matter all over, we are naturally led to cogitate over two or three important questions. First. What are the advantages of Sanatorium treatment? What the disadvantages? Where should Sanatoria be erected and how? What is the real prevalence of pulmonary consumption? How much has climate to do with it? What is best for the afflicted, and for the family of the

*Read before the Wayne County Medical Society, January 15, 1903.

afflicted? To generalize, we may say that there are about four phases to the therapy of Pulmonary Consumption, viz.: The home treatment; the sanatorium treatment; the medicinal and dietetic treatment, and the *free* climatic treatment. But in the management of almost any case, these four phases are usually more or less brought into consideration, and underlying all is the paramount principle of open air exposure with or without exercise, a principle of treatment which is by no means new, but which has of late been brought into prominence again—especially in this country.

The home treatment so-called is preferable—especially with a salubrious environment—for children and the young adolescent. And among the educated well-to-do class of people, during the earlier stages of chronic pulmonary disease, because the patient is free, and his or her psychics individualism (a thing which influences nutrition largely) can be ministered to or gently disciplined. But later, when the disease has advanced to a condition of septic poisoning, then greater relief may be expected from proper sanatorium life and regulation. Home treatment, even for the class of persons under consideration, in an insalubrious climate is often preferable to sanatorium treatment, when due care is taken to secure a continuous supply of fresh air. For the wealthy, who can have what they desire, there is no doubt that freedom under proper medical supervision in a suitable climate, is better for them than life in a sanatorium. But when the disease is advanced, when the breaking down process is beginning or has well started, then a sanatorium is the best place for them; at the same time their family is relieved of a burden which is well-nigh impossible to carry.

For the poor of any degree, when the disease has arrived at a point rendering the pursuance of the accustomed avocation not only impossible, but very arduous, the sanatorium or canvas hospital is the place for the treatment of the case. This is all the more necessary for the lowly and ignorant who need above all things a certain amount of strict discipline which they cannot get at their homes. Besides this, their homes are always more or less unsanitary and their means for acquiring proper diet (so necessary) are very small, and what they do get is often at the dire expense of the actual necessities of their family. The very best of reasons exist also for sanatoria or hospitals which will admit the very advanced cases of pulmonary phthisis. These cases require a place of habitation where they may receive care and alleviation during their decline, and thus relieve their families of almost an unendurable burden which is lightened only by the ties of kinship and affection.

It should, therefore, be the duty of the hospitals in every large community to provide suitable annexes made of canvas or largely of glass, for the reception of cases of chronic pulmonary diseases.

There is a great aversion now-a-days by all the general hospitals to the admission of cases of pulmonary phthisis or pulmonary tuberculosis, so great indeed that but few will admit such cases at all. This has come about for the most part through fear of contagion, notwithstanding there is no reasonable evidence (excepting in the case of old Blockley Hospital, Philadelphia) that I have seen published, of any cases of tuberculosis having arisen among the patients or attendants of such hospitals from any patient or inmate there, suffering with such affection.

But be that as it may, patients suffering with pulmonary consumption are really out of place in a general hospital if allowed the run of the institution. Regarding this, I believe there is no question. Some years ago I read a paper before the Mississippi Valley Medical Association on this topic based upon a fair hospital experience, in which I called attention to the annoyance arising from the commingling of these patients with those suffering from other diseases. It seems to me, therefore, that there should be a hospital for this class of patients in every large community, attached for economic reasons to one of the general hospitals. These institutions should be provided with conveniences for the admission of any sort of a case of chronic pulmonary disease. Besides this, we should encourage the establishment and support of sanatoria in the several districts of our country, the climates of which are known to be of therapeutic value. For instance, throughout the south and southwest and in the mountainous districts of the east, there are already a good number of these excellent institutions. Among them may be mentioned those well-known in the Adirondack mountains; in Colorado; California; New Mexico; Arizona; South Carolina; North Carolina, and Texas. At Silver City, N. M., there is an excellent one; St. Joseph's, under the management of our accomplished former townsman, Dr. E. S. Bullock, where most gratifying results are obtained.

As you are aware, there is a very general movement in the several states toward establishing State Sanatoria for cases of pulmonary consumption. The wisdom of this movement may be called in question because the establishment of a hospital for treating any class of diathetic dis-

ease may be considered out of the line of a state function, and might lead to the abuse of demanding similar institutions for every other class of chronic disease. Although if our system of politics were strictly honorable and patriotic, it would indeed be the proper thing for every hospital and other such institutions to be managed and supported by the state. But alas, with the pulling and bartering from purely personal motives that constitute the mainsprings of our politics, such a thing would only result in an appalling multiplication of iniquity at the expense of poor suffering humanity, as well as the patient taxpayers. Indeed, it would be much cheaper for the state to pay a certain rate to the several local hospitals for the care of these poor patients, and if need be, provide for the migration of some of them to established sanatoria situated in more salubrious climates. The prevalence of pulmonary consumption is still a matter of conjecture, for of course, our vital statistics are probably far from reliable. I saw in the newspapers the other day a statement made by a member of our State Board of Health that there were probably 20,000 cases in this State (Michigan). This would seem to be rather an exaggerated number, although I have no reliable evidence with which to dispute it. In order to get an idea of the approximate number of cases in this city, I sent out to the practitioners here (one to each), 670 postal cards worded in humble phrases as I supposed; asking for a return statement of the number of cases under and over ten years of age which were under the observation of the addressed person at that time. I am sorry to say that I received but 189 replies up to this date. I confess that I am disappointed, because I took the liberty of thus

addressing the inquiry to my colleagues with the most unsophisticated intentions, never dreaming of giving offense, nor of failing to elicit their interest in a matter of such professional importance. However, I received 189 answers. Of these 8 were either absent from the city or engaged in other fields of practice. Twenty-nine cases under ten years of age were reported, and 362 cases were reported over ten years of age.

These reports included not only pulmonary tuberculosis, but other chronic pulmonary diseases. This would show problematically that if there are only 362 cases of chronic pulmonary disease under the observation of 181 practitioners, including hospital and dispensary cases in a city of this size, that 20,000 cases for the State might be considered a large estimate.

In conclusion, permit me to say that I believe the thorough open air treatment with proper regimen and medication to be the best line of therapy for chronic pulmonary diseases. That in conjunction with this, the Sanatorium habitation allied with some amusement or pursuit for the more active patients, is especially useful to a large class of patients. Furthermore, I am convinced that every general hospital in every large community should be equipped with either glass or canvas houses annexed, for the reception and care of these patients and that provision should be made for the reception of *advanced cases*, as well as those in an early stage of development.

The majority of the Sanatoria, I think, aim to admit only incipient or slightly advanced cases—do not take advanced cases. Indeed the lot of the consumptive so-called is getting hard. The hotels, the boarding houses, the hospitals,

even the homes are becoming closed to him. He must soon become a wanderer on the face of earth, with no refuge but the Salvation Army, saloon, or stable, unless our noble medical profession soon awakes from its transient lethargy to assume its wonted courage and philanthropy; and rescue him from the pursuit of that oft-times cruel and unrelenting foe, *public opinion*. We must remember that it was a similar demon—Public Opinion—which in southern Europe, in the early seventeenth century branded “the consumptive” as an outcast, closed all doors against him, “hunted him from pillar to post,” and by ferocious mobs drove him to the stable, the kennel and the swamps to starve and famish in terror and agony. From this horrid historical picture of bygone days, we turn with feelings of mingled disgust and pride. Disgust that such brutal, cowardly emotions could ever have swayed a civilized people; and pride, that it was the courage of the medical profession aided by the philanthropic British people, who stemmed the tide of persecution against these poor wretched forms of humanity, and forced their fellows and their governments to again exercise their humane attributes and realize that the poor consumptive, although an unfortune, is nevertheless in common with all of us a creature of the same Creator, and member of that universal league, the brotherhood of man.

DISCUSSION.

EMIL AMBERG, DETROIT.

It seems to me that the doctor did not mention one point in his paper about the sanitarium treatment, and that is the purpose to protect people at home from the consumptive patient. Undoubtedly there exists some danger. Before

the Mississippi Valley Medical Society in Put-in-Bay, a most emphatic statement was made by one of the doctors from the South about the number of infections taking place in his locality. This report will probably appear in a short time, as I understand the transactions have not yet been printed. As a third point, I should like to say that I regard the idea that sanitariums should be attached to general hospitals and should be paid by the state as a movement which should be crushed in the bud, for the reason that it strengthens conditions under which we have to suffer already too much. If the University of Michigan would have control of all of these hospitals, it would be different; and if our state-appointed professors would take care of them, I might agree with it; but I must certainly object to having state money appropriated for private hospitals, and for the benefit of those connected with them.

JOHANN FLINTERMANN, DETROIT.

If we speak about tuberculosis we should start from a basis, and not make any statement which does not mean anything. If tuberculosis is known in its proper nature, certainly if we know the etiology and pathology, it is necessary for the profession to come to an understanding what has to be done and what can be done, and what the state will do and can do. In all the discussion so far I have always seen that the profession in this city stands on a sound basis. If tuberculosis is an infectious disease, if it is in some respects contagious, certainly then we accept such a basis, then we are able to diagnose this question.

As far as a hospital for tubercular patients is concerned, if there is a case of tuberculosis, and you want to treat it, bring the case under the best conditions and impress upon him what he must do from the start if he wants to get better. He must be taught to behave himself so that he is not a danger to the community; and, if he gets better, that he does not lose his chance to earn wages for his family; and for that reason we should bring any patients who are not in a position to help themselves where they can get the best of treatment and most ample means for getting the same. In some countries private authority has taken care of those cases. There have been founded sanitariums for such people; local and charitable institutions have taken care of such patients, and the results have been wonderful. His fellow laborers pay him enough to support his family. The sooner we

have institutions of that kind the better it is for these tubercular patients and, at the same time, for the community.

Tuberculosis is the most prevailing disease in any community, and if there is tuberculosis, there is danger that other people will get it, and patients will get better if you put them under proper conditions.

E. L. SHURLY, DETROIT.

I am very glad that Dr. Flintermann could agree with me about the utility of the sanitarium. In answer to Dr. Amberg, I think I mentioned twice that it was also for the benefit of the family that these patients should be removed.

The main point that I wanted to bring forward for discussion was that we should have conveniences at every hospital for these cases, and not rely upon a state institution, and that these places would be open, of course, to any practitioner who wanted to take his patients there. It is the duty of every community to have such a place, because it is a fact that even the suspicious people are being shut out—and I did not exaggerate at all the picture that I drew of the cases as they are growing in this county—that people are not taken in even if they have a suspicious cough. Some of the hospitals, at Louisville, for instance, and the Adirondacks, have people who have no tuberculosis at all but were refused at the hospitals because they were suspected.

It is to the medical profession that I appeal to give this matter the attention it deserves. If it can be proven that every one of these cases are an absolute danger wherever they are, then I say, let us shut them up as we do smallpox. If it is not so, then I do not think that the medical profession should go into any craze following public opinion in doing it. In order to do that we should have these so-called sanatoria everywhere, and not have great big public institutions which shall be a political cess-pool of iniquity for men to hang around who do not want to work. We should have a place for them in every community where they can be taken, and every patient who ought to be immured reached. The question whether it is contagious or not has nothing to do with it. They should be taken care of, taken away from their families and put into proper institutions, and it seems to me that it can never come about until the medical profession shall work for the people in every community and provide places for these people.

*THE NATURE AND TREATMENT OF EPILEPSY.

HERMAN OSTRANDER,
Kalamazoo.

I desire to discuss three propositions bearing on three phases of this subject:

1st. The prevalence of Epilepsy can be greatly decreased by a more thorough appreciation on the part of physicians of the various remote causes of the disease and by educational methods through the various health bureaus.

2nd. The use of nerve sedatives or powerful drugs of any kind to prevent and abort convulsions is in a vast majority of cases unnecessary and irrational.

3rd. Properly equipped and conducted Farm Colonies offer at present the most rational means for the care and treatment of epileptics.

The application of these propositions is not limited to so called idiopathic epilepsy. Strictly speaking there is no such thing as idiopathic epilepsy.

Epilepsy is a symptom of many morbid processes, which create or contribute to the development of an unstable nervous organization from which the malady develops. This unstable condition is either inherited or acquired. The general opinion is that it is usually inherited. I believe that it is more often acquired than has been generally taught, and in many instances from causes that are preventable or avoidable, and that these same causes assist in, and hasten the development of the epileptic habit in those who are pre-disposed by inheritance.

In the consideration of some of these conditions from which epilepsy is fre-

quently developed I would call your attention to the fact that it is often associated with infantile palsy and is the (1) "outcome of the same cerebral disease that produces the palsy." Now the causes of infantile palsy are often avoidable. A prolific cause of the birth palsies is injury to the brain due to protracted labor. Sachs thinks that if the physician would hasten the completion of labor in such cases by the skillful use of forceps, many children might escape epilepsy and idiocy.

Again the acute infectious diseases are a potent cause of infantile palsy. In many cases a convulsion which ushers in an infectious disease is the starting point of the development of an epileptic habit. We are taught that a convulsion in a child initiating some acute disease is of no more serious import than a chill is to an adult. I am not in sympathy with such teachings. I think that the occurrence of a single convulsion from any cause whatsoever should occasion the gravest concern on the part of the physician and the family because of the possibility of its causing irreparable injury to the brain or whole nervous system. Sachs (2) reports the case of a child who was perfectly normal and vigorous up to the age of fifteen months, when it had a single convulsive seizure ushering in an attack of chicken-pox. The mental condition of the child at once changed and at the age of nine years its condition was that of complete idiocy. When we remember that it is still a common practice among mothers to purposely expose their children to measles and chicken-pox so that they may be done with these diseases while young, and that public sentiment is still intolerant of strict

(1) Sachs' Nervous Diseases of childhood.

(2) Sachs' Nervous Diseases of Children, p. 531.

*Read at the annual meeting, Port Huron, June, 1902.

quarantine measures in these so called harmless contagious diseases, we cannot avoid the conclusion that many epilepsies from this cause might be prevented.

Statistics show that in seventy-five per cent. of the cases the disease begins between the ages of one and twenty. This period just includes those epochs of life in which the normal nervous system is most impressionable. It is also the period of life in which habits are formed, and during which the development and general well being of the individual receive the least intelligent attention.

Statistics also show that about $1/8$ to $1/6$ of the cases begin before the age of 3. I believe that in the majority of cases the undermining of the general health which constitutes the real commencement of the epileptic habit begins before the age of five. I will briefly call your attention to some of the causes of this condition.

1st. The infant does not receive the proper nourishment. The natural food for the babe is healthy mother's milk. I need not remind you how seldom this is available. The next best food is good clean milk from the healthy cow, so modified as to suit the needs of the age and condition of the infant. This is very often not obtainable. The following is not an uncommon condition of things and is based on personal observation. Cattle are often pastured where only impure and often filthy water is accessible. They are carelessly hurried and worried on the way from the pasture to the milking stables; not infrequently dogs are employed for this purpose. An unwashed milkman takes an unclean pail, squeezes some milk into his hands with which to wash the udder; I have seen him spit into his hand to re-enforce his grip on the

udder. If the cow annoys the milker by switching her tail she is either scolded or batted with the milk stool. If a neighboring cow urinates during the process the milk pail is allowed to catch a goodly number of the spattering drops, the milk is poured in an unclean can, perhaps it has been washed in contaminated water, and a portion of it carelessly allowed to remain in the can, it is distributed to customers, the driver sometimes becomes thirsty en route, he relieves his mouth of a quantity of tobacco juice, inverts the cover to the can, draws it partly full of milk and drinks it, replaces the cover on the can. The milk is received by the customer, placed in the same cooler with onions and other bad smelling food-stuffs. The care of the bottle and other receptacles in which the food for the child is prepared is entrusted to the maid or nurse girl who has no conception of absolute cleanliness. It is hastily mixed with the other ingredients with no regard to exactness in the proper proportions, is warmed, bottled, the nipple thrust in the mouth of the nurse or mother to test the temperature, and then given to the child. Regularity in the matter of feeding and in fact, in the attention of any of the habits of the child is ignored. A goodly number of such children die from some bowel trouble. A large number of those who survive pass through a peevish, fretful, sickly childhood, an easy prey to other diseases.

In the city of Kalamazoo, more than half the number of deaths in children under five years of age is from bowel troubles alone. I am glad to say that the health officer of that city has published a pamphlet for free distribution giving simple instructions in the general care of infants during the hot months, the proper

food, its preparation, proper time for feeding, proper care of receptacles for milk, advising the avoidance of drugs, etc. In cities like Chicago, New York, Rochester and others where instructions of this kind are given and where milk depots have been established for the distribution of sterilized milk, the reduction in infant mortality proves that diseases of this kind are largely preventable.

Now it is pretty conclusively established that gastrointestinal irritations—the absorption of bacterial poisons from bad and undigested food, the irritation from the products of incomplete metabolism and the retention of poisons due to imperfect elimination are among the very potent causes of the epileptic condition.

The most of the convulsions that begin in infancy are the result of rickets, and Gowers (3) says of this that “this condition would certainly not attain to the degree in which it causes convulsions if children were properly fed, and thus a considerable number of cases of epilepsy might, without doubt, be prevented.”

Still further mischief to the nervous system is inflicted in neurotic children by the stupidity of the parents who fail to recognize a morbid cause for the habits, peevishness and irritation of the child, and the poor victim is often punished when instead he should receive the attention of the physician and nurse. As an instance of this may be cited the quite common and to my mind, criminal practice of whipping children who suffer from nocturnal enuresis.

I have but to call your attention to the above stated facts and to the fact that epilepsy generally visits the families of the poor and uneducated, to lend force

to the suggestion that the epileptic is largely a victim of ignorance.

The remedy for this state of affairs lies in health inspection and supervision, and the dissemination of knowledge in matters of correct living by our various bureaus of health and in more specific and intelligent instructions from physician with regard to the character and preparation of food for the child, the method of its administration, and especially with regard to the aseptic cleansing of the utensils in which milk is kept and from which it is administered. As has already been stated some of the health boards in larger cities are doing excellent work in this line. I see no reason why the function of the State Board of Health should be practically limited to the management of communicable diseases and why so little effort should be made in educating the people in methods of living that will develop in the individual that natural immunity to disease which a vigorous healthy organism offers. The subject of heredity offers a fertile field for investigation which might be taken up for the public good by the State Board of Health. I believe that one of the members of the board should be an alienist. The state of Michigan expends hundreds of thousands of dollars annually for the housing, care, and treatment of its epileptics, feeble minded, and insane. These maladies are essentially incurable and the only hope of checking the ever increasing population of these defectives is by the dissemination of information that will emphasize the evil results of unhygienic living, of unwise marriages, and of ignoring the laws of heredity.

The hereditary factors that enter into the causation of epilepsy are known to

(3) Gowers on Nervous Diseases, p. 732.

all of you. (3) "Syphilis, alcoholism, insanity, epilepsy, and phthisis are found abundantly in the ancestry." (4) The intermarriage of neurotic persons contributes powerfully to produce the convulsive tendency. The elimination of these factors is one of the most serious problems that confronts the sanitarian to-day. The idea, which has often been advanced, of performing surgical operations that will deprive the defective of the power of propagating his kind will never bear the test of public sentiment. The strict enforcement of laws denying the marital relations to these individuals, would exert a most powerful preventive influence. Unfortunately however, public sentiment is not ripe for the adoption of such measures. It seems to me, however, that the outlook is not altogether hopeless. Within my recollection the law requiring the isolation, and quarantine of many of the contagious diseases was a dead letter. At the present time public opinion will not tolerate flagrant violation of these laws. I believe that a wisely persistently conducted educational crusade would arouse the same intolerance to the propagation of degenerates and in the near future public sentiment would demand laws restricting the marriage of those who on examination were found to be afflicted with any disease or condition likely to be transmitted to offspring.

With regard to the second proposition, my observations lead me to believe that the drug treatment of epilepsy is the one usually employed by the general practitioner. Some indefinite instructions regarding diet may be given, but the chief reliance of the average physician is in the powerful nerve sedative. This undoubt-

edly is not always the fault of the doctor. Generally it is quite impossible to secure the intelligent co-operation of the patient or his parents in matters of regimen, and too, they expect immediate results and are going to employ the physician who can the most nearly meet their expectations. Nevertheless, it is irrational therapeutics. Of course, emergencies like status epilepticus must be met with heroic measures, but the treatment of an instability of the nervous organization with agents whose ultimate tendency is to increase that unstable condition is not based on good judgment. I think that physiologists generally agree that a discharge of nerve force is due to chemical changes in the substance of the nerve cell. This being the case, it is reasonable to assume that in epilepsy unstable compounds take the place in the cytoplasm of the more stable ones that are present in health, and that these compounds are susceptible to explosions from stimuli that in health would produce no symptoms whatever. There is always an inciting cause for a convulsion. Sometimes a mere physiological process will so operate. I once had a patient who often had a convulsion in the morning while on the way to the toilet room to relieve a desire to urinate. We were able to prevent these seizures by having the patient remain in bed at such times and use a bed pan. These inciting causes are very often removable as in cases of nasal or ear trouble, eye strain, hemorrhoids, anal fissures, gastro-intestinal irritation, constipation, the retention of poisons due to imperfect elimination, etc. Aside from the auræ there are very often prodromal symptoms recognized by the patient himself sufficiently long before the occurrence of the convulsion to have the source of

iritation removed. Even among chronic epileptics in insane asylums, hundreds of convulsions are avoided by the intelligence of the patient, who voluntarily asks for a dose of castor oil or some other laxative to relieve an impacted rectum. Again it is not always advisable in confirmed epileptics to abort an impending seizure. A convulsion often acts as a storm that temporarily clears the nervous atmosphere. The patient who was miserable for some time before, feels like a new being after its occurrence. The indiscriminate employment of the Flechsig treatment of full doses of the bromides, chloral, the coal tar derivatives and other drugs, undermines the general health and hastens mental deterioration. Their effect in reducing the number of convulsions is usually but temporary, steadily increasing doses are required and the withdrawal of the drug leaves the patient more susceptible to seizures than before its administration began. By removing or correcting the inciting causes above mentioned the same result can be attained in the lessened number of seizures and by prescribing fresh air, regular habits, un-irritating and easily digestible foods, general tonics, the general health of the patient is improved and fortified to resist convulsive attacks. The proper treatment for the epileptic may be summed up in two words; regimen and discipline. In a large majority of cases it is inadvisable and impossible to apply these measures at the home of the patient, for the following reasons: The presence of the epileptic is a menace to the comfort, happiness, and health of the home; he is by reason of the malady deprived of a normal interest in life and most that makes life desirable; he is socially ostracized and the various industrial avenues are closed

to him; he is erratic, a creature of capricious tastes and habits and very often wholly unreliable; if a child he is an object of tender solicitude to his parents who out of sympathy for his pitiable condition often indulge his whims to his great physical detriment; he is the victim of a malady with a most varied etiology and a successful management of which requires a co-operation that the patient is unable or unwilling to give and treatment so prolonged that he is unable to bear the expense. The physician, himself, becomes discouraged with these cases and often is not unwilling to be rid of his patient who sooner or later becomes the victim of the quack and charlatan. Mental deterioration sets in and he becomes a candidate for the insane asylum. Such cases can be properly managed only in some properly equipped, properly conducted institution.

The advantage of hospitals over homes for the treatment of any disease lies in the fact that in the former the physician has complete control of the situation, and things that are harmful are inaccessible to the patient. The habits of the epileptic make it necessary that his whole mode of life should receive the most careful and rigorous supervision, and an institution for his treatment should be prepared to look after almost every detail of the patient's existence; his habits, diet, education, and occupation.

In the opinion of Dr. Spratling of the Sonyea Colony this last is an extremely important part of the treatment, and he has demonstrated that suitable occupation exerts a positive and direct influence on the number and severity of the convulsions.

It is impossible to give in detail a line of treatment that will be appropriate to

all cases; it is the individual rather than the disease that needs treatment. Several institutions, most of them on the farm colony plan are in operation in the United States. The reports of some of these show that they are accomplishing all that could be expected.

The percentage of cures from any line of treatment must ever be disappointing from the very nature of the malady. The results obtained however, in the improved health and greater contentment of the individual, and the relief afforded the home of the patient and the community at large from the distressing and pernicious influences incident to his malady are sufficient arguments in favor of the continuance of these institutions and the establishment of more of them. I am unable to understand why epileptics should be grouped with the feeble minded for treatment as is the case in Michigan. It seems to me that each condition needs the exclusive attention of specialists in its own line. I hope that the day is not far distant when this state will have, an institution solely for the care and treatment of this unfortunate class.

DISCUSSION.

C. W. HITCHCOCK, DETROIT.

I have been very much pleased with the paper and I am glad to hear Dr. Ostrander's emphasis upon the fact that epilepsy is so many times but the expression of nervous instability; I think that that is a truth which is too seldom appreciated as it should be.

The second point touched upon, the danger of the epileptic habit, is important, and if you will bear with me I will briefly tell you of a case which well illustrates this point. It was when I was on the service at the Eastern Michigan Asylum that we received a patient from St. Joseph's Retreat, Dearborn, who brought with him a sort of harness, and we inquired with interest what that was, and he said that he was

really dangerous at times and that was a harness which had been made for him and which he wore at certain times, that he had convulsions, etc.—and it was not very long after his arrival before he had a convulsion. He was upon one of my halls and I recall being on the hall and seeing him in a convulsion, but I did not note it more carefully than I would the ordinary occurrences on the hall; it occurred to me afterwards that possibly I might have been a little more observant, and yet I don't know that there was anything to call my attention especially to it. There was this fact, he slid off from a seat, as I recollected it afterwards, on to the floor and the average epileptic does not fall quite so comfortably as this man did. He had convulsions from time to time, and one day he wrote a long letter to Dr. Hurd in which he said he had been, a prisoner at the Ohio State Prison at Columbus, and he there had been obliged to work very hard, so he had feigned epilepsy (he had seen cases of epilepsy), and they had applied various tests to him to see whether his epilepsy was genuine or not, and finally decided it was, and he was afterwards committed to some institution as an insane epileptic, and then drifted up to Michigan. He said: "These convulsions are entirely within my control, and to show you that this is a fact I would like to come down and have a convulsion for you." This was a novel proposition and it was accepted, and he came down and proceeded to have a convulsion for the benefit of Dr. Hurd, the superintendent, and the rest of the staff, and his convulsion very closely simulated epilepsy. I recall Dr. Burr saying that after his long experience he thought it would entirely deceive him. There were one or two little minor points which perhaps were not like a true convulsion, but it was a wonderfully simulated convulsion. This fellow said, "As a matter of fact, these convulsions are voluntary and I want to go to the working hall. I appreciate if I was not an epileptic that had control of his convulsions I could not go there, but I have, and I hope you will trust me," and he was sent there and went out regularly with the working party and eventually was discharged and afterwards secured a position as a sailor on the lakes. He was on a sailing vessel, and was sent aloft one day and actually had a convulsion and fell to the deck. Now that man acquired the epileptic habit, and his acquisition of the epileptic habit, although voluntarily made, so upset his nervous equilibrium that afterwards he became a confirmed epileptic. I believe that man walked de-

liberately into a great danger and acquired the habit, and it passed beyond his control.

I am also much pleased with Dr. Ostrander's emphasis upon the hygienic and rational treatment of epilepsy.

*SOME UNSETTLED POINTS IN THE CONSIDERATION OF TYPHOID FEVER.

HOMER E. SAFFORD,
Detroit.

When one assumes to speak of things regarding medical science and practice as settled in any sense in our day, he is and should be treading on uncertain ground. It is only relatively speaking that our problems are or can become, in any general way, closed to discussion and question. Recognizing that many aspects of our knowledge of the subject of typhoid fever rest as yet upon insufficient data for final determination, I wish to choose for our present consideration only those which, in the professional mind, are perhaps the source of the widest differences of opinion.

In the first place it is well to call attention to the absolute futility of one man's hoping to settle any of these great questions out of his own experience, no matter how wide his field of observation nor how great his acuity of interpretation. A case in point is that of Wilson and Salinger who, writing in the Philadelphia Medical Journal for 1900, reported 1904 cases of typhoid fever with a death rate of 7.5 per cent. As a matter of interest, the same cases were tabulated in shorter series and, although the conditions and treatment were as nearly the same as they could be made, it was found that the rate varied all the way from noth-

ing up to 18.4 per cent. And yet many of us fail to see how narrow, of necessity, is the individual point of view. On the other hand, these same facts point to the absolute need of having the individual report accurately and honestly the little he may see.

The more important points in the consideration of typhoid fever which, in the professional mind, are not generally settled, are, I believe, the questions of the diet, the bath, and intestinal antisepsis, on the side of treatment, and the value of the laboratory methods of diagnosis. An old question, which in some quarters is still controverted, is that of the combined infection of typhoid fever and malaria; and still another, which within recent years is attracting attention, is that of the most common avenue of transmission of the infection from the typhoid patient to his neighbors.

1. Of the *diet* it will be safe to say in the first place that recent tendencies are toward a more varied and liberal feeding. Here, as so often happens, the pendulum is swinging toward the opposite extreme and from many quarters there has come a protest against the exclusive liquid diet so largely insisted upon until recently. This protest arose originally from the restriction being narrowed down to milk as the only suitable liquid. That milk has been and can still be used successfully in the management of typhoid fever is not to be denied, but the indiscriminate and even careless manner in which it is sometimes prescribed has largely been the cause for its loss of favor. That it contains the essentials of a simple food is certainly true; but when two quarts or more of full milk a day, without dilution and without regard to the conditions of digestion, perhaps without even ordering

*Read at the meeting of the Wayne County Medical Society, November 6, 1902.

the mouth to be washed after taking, are poured into the stomach, would it be any wonder that this or any other food were not tolerated over a considerable period without protest? Many of the Germans still adhere to this diet and do so with success in their treatment, and it is, I believe, because they know how to administer it. We hear much about curds in the stomach and the furnishing of a medium for bacterial growth, but a reasonable oversight of the case ought to minimize the weight of such objections.

Having then admitted that even an exclusive milk diet can be managed so that the patient can do well, and a reasonable assurance of recovery be furthered under it, we may observe that the reports of recent years indicate that even better results are obtained by less rigid, or at least more varied, diet. Curschmann, in his exhaustive monograph in the *Nothnagel Cyclo-pedia*, states the moderately conservative position that is now very generally held by the profession. Eichhorst and others still adhere to the exclusive milk diet, but the idea is undoubtedly being abandoned. Curschmann's recommendations may be summarized by the following quotations from his work. "Although some physicians advocate an almost exclusively milk diet in cases of typhoid fever, it may be objected that not many patients care for it for any length of time and a still larger number do not bear it." "Carbohydrates in the form of mucilaginous soups, meat broths prepared at home, gelatinous substances, e.g., calves' foot jelly, and eggs, with caution, may be added." "The desire of the patient for greater variety should be restrained until the end of the first febrile week." "From the 6th or 7th febrile day, soaked zwiebak or soft boiled egg and finely scraped raw

fillet or salmon; then roast young fowl, squab, chicken, or partridge, at first in the form of purée added to soup; then finely divided, without fat sauce; next mashed potatoes or well stirred rice, and with the meat some crust of roll or toast may be permitted. These articles may soon be followed by light fish, especially trout, boiled in salt water. After this, scraped, slightly overdone fillet may be given, and all these are followed, at the end of the second, or the beginning of the third afebrile week, by broiled, lean, tender pieces of meat, veal or mutton cutlet and fillet of beef, young game, hare or venison. In the course of the third week resort may be had to light vegetables, asparagus tips, purée of green peas, carrots, artichokes, and the like. Apple sauce and other stewed fruits are allowed, but uncooked fruits should be withheld for a long time." This represents in brief the diet as recommended by the more conservative, those who, while adhering to a liquid diet during the febrile stage, break away from it only gradually during the following three weeks.

In somewhat decided contrast to this plan of management, I wish to point out what seems to be a growing tendency as indicated in the literature of the past five years. In this connection, one of the earliest reports to come under my notice was that of Bushuyeff, a Russian, whose observations were reviewed and favorably commented upon by Thayer, of Johns Hopkins. Bushuyeff had arranged the conducting of parallel series of cases in the same hospital at the same time. The one fed upon an exclusive milk diet with the exception of one or two eggs, soft boiled or in a cognac mixture, was under the direction of a colleague who doubted the wisdom of more liberal feed-

ing. "Bushuyeff's patients," according to Thayer, "were allowed usually 715 grammes of bread, 170-180 grammes of boiled meat, a cutlet, and soup. If possible, there was given in addition a small quantity of supplementary milk and egg. The patients of both departments were allowed tea, wine and water. The following extracts from his table show the result :

	On milk diet.	On liberal diet.
Whole number of patients	74	80
Recovered .....(87.8%)	65	(90%) 72
Days on which re- covery was com- plete	55	49.5
Number of days spent in hospital..	49.2	42
Days of fever in hospital	22.3	18.9
Died .....(12.1%)	9	(10%) 8.9

Thus, in every count, the result was in favor of more liberal feeding, although, as the author points out, he was working in a military hospital where the choice of food was not great and often not inviting. Thayer quotes the author's conclusions in regard to the results above cited, which were those for 1895-6. "Not allowing myself to jump at rash conclusions, I will restrict myself to this alone, that the outcome and course of typhoid fever with a hospital diet as general as possible is not in the least worse than with a restricted diet." During 1897 he lost, under this diet, 26 out of 318 patients, or 8.2%. And the author further strengthens his position by citing the mean death rate for the ten years including the years in which these observations were made. This mean is 12.4%.

Much stress is laid upon the improved general appearance of the patient and it is urged that the feeding should take careful account of the patient's likes and dislikes. It is pointed out that intestinal

hemorrhage, both as to occurrence and fatality induced, was below the average given as a reasonable expectation by statistical inquiry, and other sequelae were not more frequent. The "typhoid state," it is claimed, becomes rare owing to the better general nutrition of the patient.

When this report first appeared, I read it with curiosity rather than commendation and felt much as Packard of Philadelphia, who, writing the following year of the same subject, said: "While I would gladly feel justified in increasing the diet of my typhoid patients, I have not as yet the courage to depart from the rule so long established, of giving only liquid diet until the temperature has reached the normal point for several days." And the idea of giving anything but liquids to a patient at the height of the fever would have struck most of us as little short of startling not many years ago.

As for myself, I will say that my own idea of liquid diet has always included such semi-solids as junket, simple custard, and ice cream, and where milk has been poorly borne, I have sought variety by a considerable, even at times almost exclusive, use of fruit juices until the appetite called for something more substantial. In short I have always aimed to keep in mind the assistance that normal appetite can give; and this is, I take it, the controlling principle in all the experiments that are leading to still greater variety in the food allowed.

In the British Medical Journal, for 1897, Barrs, of the Leeds General Infirmary, wrote "A Plea for a Less Restricted Diet in Typhoid Fever." Reporting his experience, he generalizes as follows: "Whenever a patient suffering from en-

teric fever can take solid food, I give it to him. That solid food, when the patient's appetite and digestion permit him to take it, is deleterious in the presence of pyrexia, I am unable to believe." *

* * "In regard to relapse being caused by solid food, I may state my utter disbelief." * * * "When a patient suffering from typhoid fever expresses a genuine desire for solid food, and his expressed desire is confirmed by his physical condition, I give him such food as he can take, especially meat. I do not suggest, much less insist, that a patient with a dry, baked mouth, semi-delirious, and probably loathing even milk, should be fed upon beef steaks. Such a proceeding would in my opinion be as ridiculous and unjustifiable as to insist that a man, with a clear mind and a full appreciation of his condition, who says he is craving for solid food, should be refused it."

Also during 1897, Shattuck of Boston, reported his own work in this line and in conclusion stated his belief, as he said, in "treating the patient rather than the disease." The limits that he laid down, in restricting diet for typhoid in ordinary cases were simply that the food should "leave no irritating residue" and that it "be digested without disturbance or discomfort." Besides all the variety that is possible in a strictly liquid diet, he made use of "eggs, finely minced lean meat, scraped beef, the soft part of raw oysters, soft crackers with milk or broth, soft puddings without raisins, soft toast without crust, blanc mange, wine jelly, apple sauce, and maccaroni."

I am indebted to Packard, in his review of the literature of the subject for 1901, for calling attention to a number of articles in support of the idea of more liberal feeding, which appeared during

the year preceding. I will quote his own expression of opinion, as changed during the same year from that which I have already quoted. His observations were made upon cases under his care at the Pennsylvania Hospital. He adopted the plan of giving junket, ice cream, plain egg custard, and soft-boiled egg "as soon as the patient expressed an eager desire for food." "After 48 hours of this mild increase in the diet list, very soft milk toast and rice pudding were added and, within a day or two after the fall of the temperature to normal, the patients have been allowed to eat chicken, boiled rice, and bread and butter." He concludes that, from his experience, which he modestly says is limited, "the patients on getting up from bed certainly seemed stronger and more vigorous than is usual on a more restricted diet and they were capable of an earlier return to work."

A carefully observed set of series of cases at the Massachusetts General Hospital, under the care of Fitz and Shattuck, is also reported showing not only that the more liberal feeding was attended by a decided decrease in mortality over that of the periods when strictly liquid diet and when strained proteid and amylaceous food were administered, but also that intestinal hemorrhage was likewise less frequent.

Packard's review also cites the work of Morehouse, at the Lakeside Hospital in Cleveland, and of Morris Manges of New York, both supporting the main contention, that more liberal feeding is attended with reduced mortality and no greater danger of complications. Finally Marsden of Manchester, writing in the London Lancet for 1900, reports that the same line of treatment was attended by the same results in 200 observed cases.

Hemorrhage and perforation were not a feature in this series.

II. Of the *bath* in typhoid, there is reason to believe that, so far as the average case is concerned, the opponents and the adherents of the Brand method are seeing each other's point of view and will eventually become reconciled by a compromise upon the tepid bath. In cases of hyperexia, it may be different, but it is true that not so much is being thought as formerly of the fact of merely lowering temperature. The aim is becoming rather to control the nervous, and through this the excretory and circulatory functions. It is even more than probable that, by the same agency, we are adjusting the function of heat regulation by giving the nerve centres a necessary stimulus to more nearly normal action.

It has come to be admitted that, with the lower temperatures sometimes thought necessary for the bath, the percentage of cases showing intestinal hemorrhage is increased. This naturally is less apt to occur if the bath at 80 F. or higher is used, and the good effects seen to follow are essentially the same. Many patients, owing as much as anything to the interference of friends, think they can not endure the greater degree of refrigeration and the physician feels that compromise is the only way out of the difficulty. In the face of these conditions, it is my experience that the plunge at 85 F. or even 90 F. is more satisfactory to both physician and patient than any of the substitutes suggested. A great deal of pity is lost on typhoid fever patients by their friends (and sometimes by their physician) in this particular, as one may know when he finds his patients asking to have their plunge bath continued after the temperature indications have really been removed.

The degree of skill necessary to nurse a case in which the plunge bath is employed is no greater than without it. The most important instructions aside from a reasonable attention to the circulation are to keep the head cool and to keep the body feeling as warm as possible by gentle but deep massage to the back, chest, and extremities. Even nurses of average skill will sometimes polish a patient's skin into an active furunculosis, if not cautioned as a matter of routine.

I am personally satisfied with the idea of giving the patient the privilege of stepping into his bath himself. It has a good mental influence.

III. *Intestinal antisepsis* is carried out nowadays on more rational grounds than was true not so very long ago. It must be recognized that, in the state of fever with disordered secretions and with the body so long kept in a state of inactivity, the fact of increased fermentation, with gas and ptomaine formation, is not to be forgotten, since it may decidedly affect the prospect in the case. Probably even the Eberth bacillus, so far as its growth may still be continuing in the bowel, may in a measure be affected, but it offers little hope of hitting the mark when we aim antiseptics at this organism, if we consider that the rose spots are now definitely known to be attended by a localization of the infection already generalized.

The effort of intestinal antisepsis may well be begun, I believe, by emptying the bowel with an initial dose of calomel but after the first this agent should not be employed, since the salines accomplish the same with less active peristalsis. A reasonable degree of rest of the bowel is desirable and an occasional dose of Hunjadi water or of effervescing phosphate of soda will usually be sufficient. These measures

are directed toward asepsis by mechanical means. The actual effort to combat germ-growth in the intestines by antiseptics should take account very carefully of the condition of the kidneys; many of the means employed with that end in view are largely excreted by this avenue and might, in some cases, do more harm than good. The routine administration of such drugs sometimes, I believe, prejudices the best interests of the case by their effect upon the stomach. Nothing to my mind should be allowed if possible to interfere with a healthy, normal desire for food.

IV. In connection with the laboratory diagnosis of typhoid, it is necessary to speak of two methods as having special significance. These are of course the reactions of Widal and of Ehrlich.

"*Ehrlich's diazo-reaction*," according to Simon as expressed in his Clinical Diagnosis, "was at first overestimated but at present is certainly underestimated." It was thought at first to have a more definitely exclusive relation to typhoid fever than a study of the facts has justified; but when the profession realizes that here as elsewhere scientific medical practice offers no methods that are to be used, without judgment, as short cuts, the reaction will be found of decided value. It should form a regular part of the routine examination of the urine; it is so simple that the time taken is no objection to it and, when the reaction is found, it may not only give evidence in the way of diagnosis but in many cases also aid in prognosis as well. During the attack of supposed typhoid, it should be watched for in the early days to establish or confirm the diagnosis; and in the same disease a late appearance and persistence of the reaction point to an acute tuberculosis. If the appearance has been in the first or

second week of typhoid and soon disappears, the prediction of a favorable course is made with greater safety. The average date of appearance is the 5th or 6th day of typhoid, but there is considerable variation. It should have disappeared by the 22nd day. The reappearance of the reaction after disappearance for a time, may help to determine the question of relapse as distinguished from the fever of complications.

Besides the presence of this reaction in typhoid fever and tuberculosis, its occurrence in the exanthemata, especially measles, and in pneumonia is not to be forgotten. This fact is responsible for the neglect into which the test has fallen, but that neglect is about as reasonable as it would be to discard the clinical thermometer because its showings were not pathognomonic.

V. Of *Widal's reaction* of the blood there is less question in the professional mind as to its value, but it must be recognized that even here we are dealing with no iron-clad certainty. While Widal himself at first thought the reaction would appear during the first week of every case of true typhoid, there have been a few cases in which, although carefully watched for, it did not appear at all. The explanation of this fact, as indeed of the reaction itself, rests upon somewhat speculative grounds; but recent research has demonstrated the presence of special, so-called "paracolon" and "paratyphoid" infections in a few at least of the cases in which the reaction to Eberth's bacillus fails. And, in these peculiar cases, the patient's blood has already been frequently shown to react, in even high dilutions, to cultures of the particular germs involved.

In the ordinary observation of cases of typhoid fever, the reaction is expected

between the 5th and 10th days and the test should be carried out repeatedly where a diagnosis is made contrary to the evidence shown by the reaction or its failure. With all allowance made for the few cases that do not react, observers agree that the proportion of such is so small that the practical value of the test is little affected by it. Of somewhat greater importance is the fact that in some cases the reaction is delayed. Gwyn, in the Johns Hopkins Hospital cases, reports the reaction as late as the 22nd, 26th, 35th and 42nd days, but these again are exceptional. It is a safe conclusion from the work on this subject that 97 per cent. of all cases can be shown, at some time in their course, to react to the regular typhoid culture; and, with reasonable diligence, this proportion need not be greatly reduced in actual practice. Curschmann says that he has seen but two cases, shown by autopsy to be typhoid, in which careful observation did not detect the reaction.

It is known that the length of time over which the blood of a patient may continue to give the reaction is extremely variable. While the power of the blood to react is gradually lost and ordinarily disappears altogether by the end of the third month, cases are reported in which the persistence has been remarkable, even reaching, in one reported case, the limit of 37 years. This condition must be taken into account in diagnosing typhoid fever in the same individual in any later attack suspected.

The reaction does occur in some cases undoubtedly not typhoid, especially when the degree of dilution of the serum with typhoid culture is low; but in case of doubt, the use of higher dilution will, in any event, lead to greater, if not indeed

to absolute, certainty. Again the time limit of the reaction is to be considered. For more accurate work, most authorities advise a dilution of 1:50 up to 1:100, with a time-limit of one hour, and where any question of the clinical appearances arises this standard should be taken; but in the work of ordinary practice, especially where a well-equipped laboratory is not at hand, it becomes necessary to resort to the method by means of the dried blood specimen. This, scientifically speaking, is a makeshift, since the question of the dilution can be only imperfectly estimated; but the results, even though of less weight, are of practical value, as shown by the extensive use that has been made of the method. If its limitations are recognized, it may be used with safety.

VI. Recent researches as to *how* the Eberth bacillus is *most apt to leave* the body of the patient indicate that, after the beginning of the third week of the disease, relatively few, if any, typhoid bacilli remain in the stools. About this time, however, in a considerable proportion of cases, from 20 to 30 per cent., there is a more or less pronounced elimination with the urine, and this fact becomes of great importance as bearing on the question of the spread of the disease. Earlier statements that the urine did not ordinarily contain the bacilli, depended upon observations made earlier in the disease and so, although the observations were in both cases truly reported, the apparent contradiction arose.

VII. Finally, it would seem hardly necessary to mention the subject of "typho-malarial fever" did we not hear it spoken of by those who should know better. The superstition of the "little malaria" that "almost became typhoid" is legion and can only be uprooted from

the popular mind by letting it be known that we have objective tests for both the infections concerned. The extensive research upon this subject has thus far found very few cases that show both infections in the same individual. That such a combined infection is possible is not by any means denied, but the fact should be held up to be understood of all, that, as a commonly prevalent condition, it simply does not exist and that the two infections are not known to have any essential relation to each other.

DISCUSSION.

F. W. MANN, DETROIT.

There has been a great deal of change in the directing of diet, and physicians are gradually beginning to know that the mixed diet is what the patient does best on. Milk, properly used, is, undoubtedly, still a valuable food. A few years ago everybody had to be plunged into a tub. Now we manage the case according to our circumstances and according to the requirements of the disease. In regard to intestinal antisepsis, the question is about as unsettled as it was 18 years ago. In the first place, we have not decided by any means that typhoid fever is an intestinal disease. We have not determined whether the ulceration in the intestines is the result of the primary infection or a terminal expression of the infection, and there is a great deal of evidence in favor of that. Cole, for instance, finds 75 per cent. of his cases to show the typhoid bacillus in the blood in the very early condition. More conclusive still, perhaps, are the autopsies of Flexner. He has made autopsies that have been dead from typhoid, and found no ulcerations whatever. Another observer found the presence of bacilli in 60 per cent. of his cases. I believe that we should consider typhoid more of a glandular disease than an intestinal disease. In regard to laboratory diagnosis: Here we have, of course, a very valuable adjunct to our diagnosis equipment. We have the Widal test and the diazo-reaction, both of which are very reliable. If we can get the Widal on the 6th we know that we have a case of typhoid

fever. In getting the Widal we ought not always to say that we have typhoid. My experience in the last two weeks has been peculiar. A case came with a little fever. I had the blood tested according to the routine. It came back to me from our clinical laboratory, and there was a very distinct reaction. Patient was put in bed and treated as a typhoid patient for a few days. Finally she refused to lie in bed and got up, and is now well. In regard to the doctor's remarks as to how the bacillus leaves the body, he evidently favored the idea that the elimination of the microbe was through the kidneys. It is undoubtedly true when the disease has become practically a constitutional affection, but I believe that some cases of typhoid do not get to that condition. I believe the bacillus is destroyed wherever it is. I would say that it left the body by a process of its own.

In the Spanish war, where there was such an abundant opportunity for having typhoid malaria, there was practically no typhoid malaria, any more than could be by general infection. In regard to para-typhoid, we come to an important point in regard to the diagnosis of these intestinal parasites. It is rather confusing. Here we get a disease which has all the clinical manifestations of the typhoid; it has the tongue, the temperature, the rose spots, the myositis, etc., and yet it is not typhoid, because it would look almost as though we shall simply make a little bacteriological differentiation of these things, and that this affection which will respond to clumping reaction of Gwinn will be thus differentiated from the typhosis infection.

H. W. LONGYEAR, DETROIT.

One point: this question of milk feeding. I have had some experience in excavating the rectum from great masses of casein which have come on account of milk diet. One case of typhoid—the case had recovered—a young woman. I was sent for by a physician, who said she had a tumor of the pelvis. The odor was something terrible. Asked what was the cause, and they said it was the discharge of the tumor. I examined the anus and found much the same appearance as when the head of a child is presenting low down in the cervix which is well dilated with very thin lips. I found a round, presenting mass almost as large as a child's head, and from the anus was coming this terrible discharge. I took the handle of a large, iron spoon and soon delivered the tumor by piecemeal. I have seen that occur at other times, not perhaps in such a degree as this one, but I believe it is due to the improper

use of milk diet. The consequence has been with me, since these experiences I have steered clear of milk diet, and I believe that baths and mixed diet serve all the purposes and avoid that occurrence. I think when milk is given it should be in connection with saline laxatives.

C. G. JENNINGS, DETROIT.

I think upon the question of diet that the doctor has reviewed the subject very well, and I must protest against the wholesale condemnation of milk as an article of diet in typhoid fever, simply from one or two exceptional experiences, based upon, in all probability, improper administration of the food. I think it is irrational and unscientific. A diet should be a scientific thing, and particularly the diet of typhoid fever; and in selecting a dietary it should be selected upon scientific principles—that is, upon the tissue-building and energy-producing value of the food. Dr. Longyear said that he would substitute broth for milk. How much broth will it take to equal in tissue-producing and energy-producing qualities a pint of milk? It takes about six. Broth contains practically all proteid, and is a very one-sided food. It is itself of value, but as a substitute for milk it is ridiculous. If patients live through typhoid on fruit juice and broth and things of that kind they live because they thrive upon their own tissues, and not because of the food that was introduced into their stomachs. The caloric-producing value of a pint of milk is 425; of broth, about 50. We forget, I think, the value of the carbohydrates in febrile diet. We are apt to push proteids to an unnecessary extreme, thinking, perhaps, that we may save tissue destruction. Tissue destruction can not be saved. The toxæmia destroys tissue, and this destruction cannot be prevented by any method of dietetics. We must expect that as one of the necessary parts of typhoid fever, so that it is unnecessary to administer proteids with the idea that we are going to prevent tissue destruction. We give proteids up to a certain point. They should furnish only a small percentage of the total energy that is introduced into the body. We can with very great value substitute the carbohydrates, and one of the most valuable carbohydrates is one of the sugars and the starches. An ounce of sugar of milk given to a patient will produce just as much energy as one ounce of dry albumen. The albumen has only an energy producing power. An ounce of a grain introduced in the form of a gruel has the same energy producing value as one ounce of dry proteid. That would represent five ounces of meat. One egg,

which is very easily introduced into a fever patient, produces 70 or 75 calories. One ounce of bread will produce about 125, and by thus selecting articles of diet with reference to their caloric producing power we can give to our patients a rational diet and one that will save them from wasting and one that can be digested. A febrile patient must take a food up to about 1500 to 1700 calories, to get what is necessary for his reasonable nutrition, and in order to get this we have to get in a good deal of food. We can not always do it. Conditions are sometimes against it, but where it is possible we should try to approximate to that point. My own experience with milk is that it is, as a rule, when properly given, the best article of diet for typhoid fever. Infants of from two to five months digest cow's milk, and perfectly, many times. We do not give it, though, undiluted. We give it properly prepared.

JOS. SILL, DETROIT.

Laboratory men for years have been trying to find some means of distinguishing a colon from a typhoid bacillus. They have many differences, but as fast as some distinguishing point has been found, it has been found that in many cases it would not apply. The presence of the intermediate forms would seem to indicate that we are dealing not with two distinct types but with a large family which differ in small things. Their growth may be the same, their motility, and they will differ in some point, as the reduction of acid or reduction of certain sugars. One of the most valuable methods of differentiating these allied forms has been by the clumping reaction. With the Widal reaction, typhoid will, of course, be clumped by serum in various dilutions. If the dilutions are raised it is found to exclude all but the true typhoid. On the other hand, the serum of patients suffering from these allied infections will clump cultures of the bacilli recovered from their blood or urine or early discharges. That seems to offer a very valuable method of distinguishing.

There is still a point that is not cleared up, that of the delayed Widal in true cases of typhoid, as Dr. Jennings has said. I have made a number of tests for him and found negative results until very late in the disease.

A. E. GURD, DETROIT.

There are three points that I should like to call attention to. One point was in regard to feeding, especially in the later stages. In a large experience I came to the conclusion that the later stages, particularly, were sometimes much

in the same condition as in infants who have a high fever from want of food. I think in those cases it is necessary to begin mixed feeding. In regard to bathing, especially of children, the public in general are alarmed at the baths, but I have found that they are the ones who stand them best and really call for the bathing. Another point is of interest, I think; it is in regard to the bacilli in the urine. I think the laity, as a rule, are not aware that the urine is as infectious as it is. The bacilli remain as late as three months after the patient is perfectly well.

C. W. HITCHCOCK, DETROIT.

One thing that has appealed to my patience, or to my impatience, has been the readiness with which milk has been condemned as an article of diet, simply because, in the process of its digestion, it is prone to form hard curds in the stomach. The explanation is so readily made that these curds must form cultures for the bacteria. I have heard two or three papers wherein milk has been condemned very severely on these grounds, but with these objections only as glittering generalities. None of these papers have adduced any evidence to this effect. As far as conditions go there is little or no proof that these curds have been found the abiding place of extraordinarily large colonies of germs, which would be the case if these objections were tenable. I have been very much struck with the frequent occurrence in some parts of the country of a type of fever which seems to be well substantiated by very intelligent men, and yet where the course of the disease has been so remarkably short as from two to three weeks.

H. E. SAFFORD, DETROIT.

I wish in closing to emphasize the point in regard to the laboratory methods, that we are not to expect any of our signs, even clinical, to be strictly pathognomonic. Neither the rose spots, the characteristic fever curve nor the enlargement of the spleen, can lay any claim to such infallibility. Every sign is of value by just so much as it raises the degree of probability that the diagnosis is thus and so. Horton-Smith, in the Goulstonian Lectures for 1900, advised the routine use of a 1:20 dilution for the Widal test because, he urged, if we use 1:100 in all cases to start with, we shall exclude a considerable number which, though really typhoid, do not acquire this degree of agglutinating power. On the other hand, it is always best to make the test in higher dilutions to add a greater certainty. The dilution of 1:20 with a time limit of one

hour, he considers a safe standard for routine work.

As to paratyphoid cases, we must recognize that, with the testimony of the immense amount of work which is being done on the subject, the fact seems certain that only 3 per cent. of typhoid cases fail to give the reaction; and, of those that do fail, by no means all can be classed as due to paratyphoid infections. Hence we must conclude that in some very small proportion of real typhoid cases the agglutinins are not elaborated. This is borne out by experimental evidence in the cases I refer to by demonstration of the specific lysins, which protect from the infection with Eberth's bacillus, even though there be no agglutination.

Dr. Mann evidently thought I referred to the elimination of the bacilli from the urine as related to that of the whole infection. I wished rather to call attention to the relative danger to the community from the infection eliminated by the different avenues. In the first two weeks doubtless the stools do present the greatest danger, but in 20 to 30 per cent. of cases, the patient's urine is, as I have said, the more threatening one and the use of a urinary disinfectant, as approved by Horton-Smith, is certainly indicated.

Dr. Gurd's mention of the value of the bath in children, as controlling the nervous symptoms, would naturally call to mind the demonstration of the same influence in controlling, by the same means, hysterical attacks in children.

*SOME POINTS IN THE DIFFERENTIAL DIAGNOSIS OF CANCER OF THE STOMACH.

COLLINS H. JOHNSTON,
Grand Rapids.

It has long been known that in cases of cancer of the stomach in which free Hcl. is absent, lactic acid is very generally present, yet for many years too little weight was laid upon this fact, for it was thought that lactic acid was always freely present when Hcl. was wanting. Boas was the first to call attention to the fact that in cases of gastric car-

*Read before the annual meeting of Michigan State Medical Society, Port Huron, Mich.

cinoma, with very rare exceptions, Uffelmann's test for lactic acid gave an intense reaction, while in every other stomach disease in which the usual test breakfast was used, lactic acid was absent or present in very small amounts only, quite insufficient for the production of a positive result with Uffelmann's test. For the securing of this intense lactic acid reaction, stagnation of the stomach contents and permanent absence of free Hcl. are necessary. If only one of these is present, as is frequently the case in dilatation of the stomach, or chronic gastritis, the reaction is not secured. The presence of lactic acid in considerable amounts points to fermentation, hence it is associated with lesions that are accompanied by motor inactivity of the stomach.

Not all cases of gastric carcinoma are accompanied by stagnation of stomach contents and fermentation, and there are on record cases of cancer of the stomach in which repeated examinations have failed to find lactic acid. They are the ones in which Hcl. is always present, which seems especially to be the case in cancer developing on the site of old ulcers. The amount of Hcl. acid depends largely upon the degree of gastric catarrh present, and as the new growth usually excites more or less chronic gastritis, Hcl. is usually absent. Lactic acid is commonly present even in the earliest stages, and, in the great majority of cases, in large quantities, and when associated with the absence of Hcl. is very diagnostic.

But we must not forget that lactic acid is not in itself a *specific* sign of cancer of the stomach. It is frequently found after a meal of meat, and sometimes after the ingestion of milk, sauerkraut, salads, etc. It may occur in chronic catarrhal

gastritis, though very rarely after a Boas meal. In cancer of the stomach, however, it is a most common objective sign. It may be detected months before a tumor is palpable. Therefore, in a stomach case which you suspect to be cancerous, if stagnation of the contents and constant intense lactic acid reaction and permanent absence of free Hcl. are found, the diagnosis of cancer is almost positive.

Case I: Man 55 years of age with a history of chronic gastritis extending over a period of several years, such as cramp like pain in the stomach after eating, loss of appetite, constipation, etc. He has occasional attacks of vomiting of a watery fluid containing much mucus, and is troubled more or less with severe pyrosis and regurgitation of a very sour, burning fluid. Pyrosis is not a regular symptom of chronic gastritis, and indeed, is frequently not present at all. Fermentative processes and the production of fatty acids do not, as a rule, take place in this disease, as dilatation and stagnation of the stomach contents is not a frequent complication. When present it speaks against chronic gastritis, since in the latter as a rule, the fluid is passed on by the stomach into the intestines in the normal time. In many cases the motor activity of the stomach is even increased; only exceptionally is it diminished, and never to such a high degree as in dilatation due to malignant disease. Hcl. being also deficient in amount the reaction of the stomach contents in such cases is usually but faintly acid, neutral or alkali, hence pyrosis is not a common symptom.

The patient has never vomitted undigested food, nor has blood ever been found in the vomit or stool. His difficulty is worse after a meat diet than after

a vegetable. This is somewhat characteristic, as in cases of carcinoma of the stomach, salivary digestion is frequently good, and starches are well born. He has a tumor in the region of his stomach to the right of the median line, above the navel, oval in shape, which decends with inspiration and can be held down on expiration. The swelling is sensitive to pressure. Although he has eaten nothing since yesterday, and it is now 11 A.M., palpation elicits a good succussion sound below the naval and previous inflation of the stomach with Tartaric acid, and Bicarbonate of Soda had shown the upper boundary to be in its normal position. The lower boundary is found two inches below the navel. By means of a stomach tube at least a pint of food containing undigested food, and a pea that the man had eaten six days before, were withdrawn, showing stagnation of the contents of the stomach. This is somewhat peculiar, when we consider that the patient has never vomited food. The fluid withdrawn was strongly acid, but contained no free Hcl. Large amounts of lactic acid were, however, present. The diagnosis of malignant disease was not difficult, for the following conditions: First, the age of the patient; second, the loss of flesh and strength with cachexia; third, epigastric pain not relieved by vomiting; fourth, the presence of a tumor belonging to the stomach and associated with dyspeptic symptoms; fifth, frequent vomiting, with dilatation of the stomach; sixth, absence of Hcl.; seventh, presence of lactic acid in large amounts.

Case II: Woman 56 years old; ill for three years; 20 years ago the patient vomited blood off and on for a period of about seven years. The blood was dark

in color, not coagulated, and probably came from an ulcer, though it might have been due to congestion from some other cause. The patient has a good deal of abdominal pain, especially in the intestines, and frequently vomits one or two hours after meals. This consists usually of mucus, or one-half cupful of a slimy fluid, and occasionally contains undigested food. She has lost much flesh and strength; her bowels are always constipated; stools hard, and she has used much salts and many enemas; her appetite is poor and she eats but little. The contents of the stomach were withdrawn with a tube, and consisted of mucus and undigested food. Litmus paper shows a slight amount of acidity, but Congo paper was not discolored by it, showing the absence of free Hcl. No lactic acid was found.

Physical examination showed a tumor in the epigastric region to the right of the median line, painful on pressure, which descended when the patient took a deep inspiration, and could be held down during expiration. She does not know how long it has been present. A cancerous tumor of the pylorus, if not adherent to the liver, will move down on inspiration and can be held down by the hand during expiration. Tumors of the liver ascend and descend with the respiratory movement, and cannot be held down in expiration as can this tumor.

The diagnosis laid between cancer and chronic gastric catarrh with a tumor near the pylorus consisting of inflammatory exudate and cicatricial thickening caused by the ulcer twenty years ago.

In favor of a diagnosis of malignant disease were the following conditions: First, the presence of a tumor; second, the age of the patient, gastric cancer be-

ing most common after the age of 40 years; third,

In favor of the diagnosis of chronic gastritis were the following facts: First, the average duration of cancer of the stomach is about one year, rarely more than two, while this patient has been ill three years. The long duration of the illness favored the benign process. Her face was pale, her skin flabby, and subcutaneous fat greatly diminished, but she did not present the yellowish or straw colored hue of malignant disease, nor was she as emaciated as one would expect a person with cancer of the stomach for three years to be.

Second: The vomitus consisted of mucus or slimy fluid, only occasionally mixed with food, and contained no blood, whereas the vomited matter in cancer, while at first like that of chronic gastritis, soon becomes streaked with blood and dark in color, like coffee grounds in appearance; nor was blood at any time found in the stool.

Third: No secondary growths were to be recognized in the liver, peritoneum or lymphatic glands.

Fourth: Free Hcl. may be present or absent in chronic gastritis, though usually absent. Lactic acid is rarely present, and never in such large amounts as in cases of cancer.

I exceedingly regret that I am unable to present the succeeding history of the case.

Were the time at my disposal not so limited I should be glad to mention a few points pertaining to the blood, which are of value in differentiating cancer of the stomach from other conditions. On this point, however, Osler says, "the chemical findings are of greater value. The constant presence of lactic acid and

the absence of Hcl. have in several particular cases suggested the diagnosis of cancer which has been verified later on by the development of a tumor."

In this connection I wish to refer briefly to the following case, reported by Boas in the *Deutsche med. Wochenschr.* 1892. No. 17: Patient, man of 40 years with dyspeptic symptoms. He has never vomited but once. No blood in vomit or stool. Somewhat pale and emaciated. No tumor anywhere to be found. He has pain after eating, and a localized point of tenderness in the epigastric region. A diagnosis of ulcer of the stomach was made so no tube was passed. Treatment by hot poultices and silver nitrate seemed to benefit him, and in three weeks a test breakfast consisting of two slices of bread and ten ounces of water was given. Contrary to all expectations, the stomach contents had no free Hcl. and contained quite undigested bread as one would find in a case of chronic gastritis. The reaction was slightly acid, only Uffelmann's test gave an intense yellow color.

In consideration of the absence of free Hcl. three things were considered: First, in reference to acidity; second, chronic gastritis; third, a malignant growth in an early stage. The large amount of lactic acid, however, spoke against the first two hypotheses. One week later the stomach tube was passed in the morning before the taking of anything whatever, and a tumblerful of food remnants was removed. It did not smell decomposed, contained no free Hcl., no yeast or sarcinae, but gave a pronounced lactic acid reaction. The same condition was found on the following day, so that the presence of a pronounced insufficiency of the stomach was established.

The absence of free Hcl. and sarcinae

spoke against the presence of a dilation caused by benignant pyloric stenosis. This was confirmed by inflating the stomach; its lower boundary did not extend below the umbilical line.

The following conditions were present: First, severe stomach symptoms in a man 40 years of age, without assignable cause, and with a previous good stomach history; second, loss of weight and strength; third, stagnation of contents; fourth, repeated vomiting; fifth, absence of free Hcl.; sixth, exquisite lactic acid reaction. The presence of a tumor only was wanting to make the chain of evidence complete. Two months later in the median line between the tip of the sternum and the navel, was felt a hard tumor, sensitive to pressure, moving on inspiration, but which could not be fixed on expiration, thus appearing to belong to the liver. A few days later he died. Post-mortem showed the pyloric extremity of the stomach to be in great part changed into a tumor the size of an apple. The pylorus was passable for a finger, its inner surface was ulcerated, the new growth was sharply defined, and the rest of the stomach free. The liver and spleen were free from metastases.

In this case a diagnosis of carcinoma was made six months before the tumor was felt, by the high degree of lactic acid in the stomach contents.

The test for lactic acid should be made in the morning before the taking of food, or after a test breakfast. There is no lactic acid in oatmeal, so that oatmeal gruel is to be preferred for the test meal. The stomach should be washed out the evening before. It is often a most difficult thing to get a dilated stomach perfectly clean, but it must be absolutely so before the test meal of one pint of oat

meal gruel is given. One hour later the tube should be passed, and the test should be made when the specimen is fresh, for lactic acid may sometimes be found in the fluid removed from the stomach of a case of chronic gastritis if the examination is not made for several hours after its withdrawal. One should never come to a conclusion from one examination only; the test should be repeated several days in succession, and if pronounced reactions for lactic acid are secured, the formation of lactic acid in the stomach is proven, and the presence of cancer is extremely probable. There is occasionally a *trace* of lactic acid present even after a test meal, and Uffelmann's test with chloride of iron may give a slight reaction. This, however, is never so marked as in cancer. Normally a stomach contains no lactic acid at all. The pronounced color present in cases of carcinoma is never seen with a normal stomach unless lactic acid in some form or other has been introduced into it; even in benign stagnation or pyloric stenosis no such amount of lactic acid is produced as is found in cases of carcinoma. The absence of Hcl. in itself proves nothing; it is frequently absent in neurosis, atrophy of the stomach, chronic gastritis, etc. It may even be wanting in ulcer of the stomach, in which cases Hcl. is usually markedly increased. There is hardly any disease of the stomach in which Hcl. will not occasionally be wanting, but this lactic acid excess is characteristic only of cancer.

But the absence of lactic acid does not exclude cancer, as many cases are on record in which no lactic acid has ever been found. This is especially true of cases in which there is no stagnation of the stomach contents. As Osler and McCree say in their recent study of cancer: "Its pres-

ence speaks strongly for the existence, but its absence has no weight in favor of the absence of cancer."

*AUTO-INTOXICATION AS A CAUSE OF GINGIVITIS.

J. C. MAXWELL,
Paw Paw.

It is impossible to give, during the short time allotted to me at this meeting, anything like a complete report on this subject. But I will try briefly to give the histories of a few cases of auto-intoxication complicated by gingivitis with pyorrhoea more or less severe.

I consider the subject under discussion an important one, from the fact of the apparent relationship in a great many cases between self-absorption and various conditions of the mouth so very frequently found as complications in cases of so-called biliousness. It is a subject that comes under our almost daily observation.

It might be well to explain at this point what we mean when using the term auto-intoxication. If I were to offer a definition it would be something like this: Auto-intoxication is a condition of self-absorption of the poisonous waste products of the body to such a degree as to interfere with the normal activity of the centers governing the excretory organs, thus obstructing natural elimination. When I say natural elimination, I mean, of course, normal elimination, normal stool, normal urine, normal excretion from the salivary glands, the skin and lungs.

How often we are consulted by patients complaining of dull headache, loss of

strength and ambition, constipation, thick and highly colored urine, coated tongue and bad breath? This is almost a daily occurrence. And what is it? Non-elimination, absorption of waste and therefore poisonous substances, causing irritation of the nerve centers, and thus a condition of auto-infection with elimination through unnatural channels.

This is the cause of the constipation, the cloudy urine, the foul breath and fouler salivary excretion.

This leads me up to the few cases above mentioned that have come under my observation the year just past.

Case I. Mrs. P., age 42, married fourteen years, never bore children, a resident of Paw Paw. First came to me for consultation about seven years ago, complaining of constipation, indigestion, pain in the right side in the liver region, pain in the region of the left ovary, irritable bladder with smarting and burning at urination, severe, irregular headaches—not due to error of refraction as found upon examination—dull, cloudy mentation, with coated tongue and bad breath upon arising each morning. I prescribed for her, using so-called liver stimulants, something to allay the irritation of the neck of the bladder and advised a thorough course of eliminating treatment with vaginal examination if no better. This examination being submitted to at a later date, I found, as I suspected, a pronounced anti-flexion with prolapse and free pustular discharge from the uterine cavity. Upon further physical examination there was determined an enlarged, tender liver, a distended colon throughout its entire course, irregularity in cardiac action, chronic constipation of long standing, with straining at stool and very scanty menstruation.

*Read before the Van Buren Co. Medical Society, January 13, 1903.

Here was a typical picture of absorption from the liver, from the distended bowel, the bladder, ovaries and uterus. Local treatment, electrically and otherwise, very irregularly employed, with eliminating and stimulating medicament, gave some relief until the fall of '98, when, after a period of severe exercise, the patient was taken down with an acute inflammation of the pelvic organs, the ovaries, the uterus, the bladder. Carried through this, the same old treatment was carried on irregularly as before (the patient refusing curettment and divulsion of the anal sphyncter, both of which were indicated), until in the late Fall of 1901, when she was again stricken down, this time more seriously than before. It was on the morning of Dec. 16th of the year just mentioned (the date being familiar to me because of the fact that a baby boy came to our home during the afternoon of the 15th) that Mr. P. came for me, saying his wife was very bad, fearing that she was unconscious when he left, and wished me to get to her as soon as possible. Being already dressed, it was but a few moments when I reached the bedside, and sure enough found her unconscious and in convulsion. Being familiar with the history and recent health of the patient, I considered the condition due to extreme irritation of the nerve centers, caused by absorbed poisons, though the cause might have been circulatory through the sympathetic nerve supply, and at once administered hypodermically heavy dosage of morphine, strongly guarded by atrophine and strychnine, and at the same time dispatching a messenger for Dr. Hoyt, in consultation. Under treatment, the patient soon became quiet, and about the third day consciousness returned. At this time and in fact as soon as the patient could swallow, liberal dos-

age of mild chloride, followed by Epsom salts, was administered, and this in turn by high and low enemas of water, soap and water, water, glycerine and epsom salts—all with very little result. The patient remained conscious about two weeks, and not being able to get the desired result by using the bedpan, and refusing to use it longer, she insisted upon getting up to stool, straining hard to accomplish movement of the bowel. It was while undergoing this ordeal that she was taken with the second series of convulsions, having eight before quiet could be restored.

During the conscious interval, patient complained of excruciating pain in the head, describing it as a seeming band of steel being drawn tighter and tighter until it became absolutely unbearable till morphine would be resorted to, when the patient would again become quiet and remain so for several hours. This patient, after the second series of convulsions, did not again regain consciousness, but lingered in this unconscious condition until about the middle of February, 1902, when she died. A post mortem was refused.

While this case is not a typical one, as indicated by the title of this paper, still I consider it a true picture of auto-intoxication in the extreme.

Case II. Mr. W., 52 years of age, born in France, came to this country when 34 years of age, glass blower by trade since 14 years of age. About three years ago, at the beginning of the land craze in the neighborhood of Paw Paw, this man came from Indiana and bought a farm two miles east of the county seat, where he has lived a quiet, out-of-door life ever since up to November of last year, when he moved to Kansas with his boys, who are hereditary glass blowers.

This patient first came to me for consultation during the latter part of July, 1902, complaining of constant dull headache, loss of flesh and of strength, with extreme exhaustion upon the least exertion, and marked palpitation. I asked to see the tongue, and thereupon made a careful examination of the mouth in general, and found a positively vile condition. The tongue fearfully coated, a grayish, dirty coat, the sides, teeth and gums covered with the same slimy matter, the gums bleeding at the least touch, the teeth loose and from around which—everyone of them (twenty-seven in all) with the slightest pressure could be squeezed out pus in great quantities. Upon further examination I found that the teeth began to pain him about ten years ago, at which time he commenced to have dizzy spells, with constipation and attacks of diarrhoea. This condition became more and more aggravated till his visit to my office, when he had apparently reached his limit and thought it about time to do something for himself.

I prescribed mild chloride in small doses, until the desired result was obtained, regardless of amount, sodium phosphate in hot solution, together with nerve and heart stimulant, and sent him home to call again in three to five days if he was able. I was not surprised when a couple of days later his son came in and asked me to go out to see his father, as he was no better.

By first impression on entering the house was the similarity in odor to that of an old and recently abandoned privy vault, and upon examination of the mouth that too resembled the same. When examining the mouth I was struck with the appearance of the teeth and gums, and upon questioning the patient, found that he was

using what he called flannel salve, a mixture of asbestos and beeswax, to protect the teeth from the atmosphere, as contact with the air caused severe constant pain. The patient lost flesh rapidly, reducing from 185 down to 130 pounds during his two months' sickness, and in spite of eliminating and stimulating treatment, no particular improvement could be gained until extraction of the teeth was resorted to. Of course it was a chance, and the only chance the patient had, in my estimation, to recover, as there was constant swallowing and absorption of great quantities of pus, and evidently more poison absorbed than eliminated. Extraction was done by Dr. Lanphear, of Paw Paw, the injection method being used, after which the patient made a good recovery, and in November, when starting for Kansas, weighed 165 pounds.

It would take too much of your time to report this case in full, though it was a very interesting one, but I wish to say that during the two months of sickness this patient's temperature ranged very low, remaining near the one hundred, F. mark most of the time. Another feature was the sallow, malignant look, the presence, both before and during treatment, of ulcers in the mouth and throat—one ulcer in the throat measuring about two inches by one inch. This condition resisted all treatment until extraction of the teeth was accomplished.

This case may safely be called a double one—the gingivitis with pyorrhoea might have been the cause of the auto-infection; and surely was the cause of keeping up the trouble, and the auto-infection might have been and probably was, together with neglect of the teeth, the cause of the condition present.

The Journal of the Michigan State Medical Society

All exchanges, books for review, manuscript, etc., should be addressed to the EDITOR, 57 W. Fort St., Detroit, Mich.
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DETROIT, MARCH, 1903

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Editorial

MEMBERSHIP AND DUES.

In a recent address to the old members of the American Medical Association (*Journal of the Michigan State Medical Society*, February, 1903), the secretary clearly defined the stand taken by the Association, namely, that after March 1st of this year only he who is a member of his State Society is entitled to membership in the American Medical Association, and it is now clearly understood that membership in the State Society can be gained only through membership in the County Society.

At the annual meeting of the Council, held in Detroit, January 9, 1903, at which were present the councilor of every district, the president, first vice-president, secretary and treasurer of the Society, the following resolutions were adopted:

1st.—Every member of a chartered County Society is a member of the State Society, and the dues to both must accompany his application for membership in his County Society.

2d.—Each old member of the State Society must affiliate himself with his County Society, in those counties in which a chartered organization exists, as soon as expedient, not later than **January 1, 1904.**

3d.—In those counties in which no chartered organization exists, the old members will be carried on the rolls of the State Society by the payment of dues direct to the treasury of the State Society until such time as these counties are chartered.

The fiscal year of the State Society was fixed to run from January 1st to January 1st, and it was recommended that the annual meeting of the County Societies be held during the last quarter of each year,

to the end that all reports and dues may be received by the secretary of the State Society not later than January 1st of each year.

The dues to the State Society from County Societies already chartered are next payable January 1, 1904, and are to be collected from each member by the secretary of the respective County Societies some time during the year, on or before January 1, 1904, and transmitted by him to the secretary of the State Society by that date.

In fixing these dates and the time limit for the payment of dues to the State Society the Council is placing the collection of the finances of the Society on business principles. One of the main objects of the reorganization is to enable the physician to pay his dues to the county and the state at the same time and at a minimum rate. It is earnestly hoped that those physicians who have not yet joined their County Societies and who have made no attempt to form a society in their county, realize by this time that this systematic organization of the medical profession is simply a means to place at the command of the individual doctor every personal advantage, to give him greater returns for the money expended, to enable him to meet more frequently and under the most favorable circumstances his brother practitioners. There is absolutely no attempt to force any physician into a society against his will, but membership in the larger society is made simply obligatory upon recognition and work in his own locality. There is nothing radical in this; it, the stepping from the lower to the higher, is the principle recognized in all governing bodies. It has always been the principle of admission to member-

ship in the American Medical Association, but has until recently not been enforced, to the detriment of the American Medical Association, the State and the local societies.

Today, under business principles, under better systems of organization and regulation, for the good of the whole, the American Medical Association, the State Society and the County Society are one indissoluble body.

A CORPS OF LECTURERS FOR COUNTY SOCIETIES.

In order to keep the work of the County Societies active and of interest the Council has placed at their disposal a Corps of Lecturers. These, one from each District, selected by the President for their especial fitness along certain lines, are to be ready at the request of the Secretary of any Branch Society to present a paper before that body. The names of the lecturers must not include any one in connection with any institution of learning, as the latter is usually ready to respond. This is done also that the greatest number of our members may become interested in the maintenance of the Society and its Branches.

For illustration, the President has appointed as lecturer of the 1st District Dr. Thaddeus Walker (Detroit) on Laboratory Work and Diagnosis. Dr. Walker, who is the Superintendent of the Detroit Clinical Laboratory, will be pleased to present upon request before any Branch Society the latest methods used in Laboratory Work and the value of such work for diagnostic purposes.

OSTEOPATHY AND THE LAW.

The method of treatment which sails under the flag of osteopathy is nothing new so far as it is good. Massage is a well developed and recognized branch of general medicine. It is, however, only a branch of medicine. Just as every intelligent and well-trained physician makes use of hydrotherapy, suggestion, electrotherapy in suitable cases, he will apply massage. If anybody undertakes to heal everything by one of these methods, as, for instance, the faith healer by suggestion, or the osteopath by massage, a direct danger to the public, which does not know better, is the result. It is proven by many sad instances what the senseless application of a method may lead to. Only a thoroughly educated physician is able to tell whether massage should be applied in certain cases or not. If he will entrust the mechanical part of the treatment to a reliable and competent party he may do so. It would seem that a sharp distinction should be made between a physician, titled "doctor," and a masseur. There does not exist the least intention to persecute any class of people or to attack anybody without just cause. It must, however, be clear that the public should know that an "osteopath" is a "masseur" and that the public should be protected in some way or other. The osteopath who is unbiased will, doubtless, admit that there exists a great opportunity for many unknowingly to take advantage of a certainly unjustly privileged position. There is no other way out of the present dilemma than to make the public understand that an osteopath is not what is ordinarily understood by the term "doctor," and that the osteopath is not of the medi-

cal fraternity. The law should define the position of so-called osteopathy clearly and without the least possibility of an error. So much is due to the commonwealth.

EMIL AMBERG, Detroit,

Member, Committee on National Legislation,
American Medical Association.

County Society News.

There are now in the state forty-eight chartered County Societies. These forty-eight societies represent sixty-five counties, several counties having, in a number of instances, joined together to form one society.

BAY COUNTY.

The annual meeting of Bay County Medical Society was held on Monday evening, Jan. 19, 1903, in Bay City, at which the following officers were elected for the ensuing year:

President—Dr. A. E. Hoyt, Bay City.

Vice-President—Dr. G. W. Moore, Munger.

Secretary—Dr. Morton Gallagher, Bay City.

Treasurer—Dr. C. H. Baker, Bay City.

Delegate to State Medical Society—Dr. J. W. Hauxhurst, of West Bay City.

Also, as suggested by a communication from the secretary of Wayne Medical Society, we elected a "Legislative Committee"—Dr. C. T. Newkirk, Bay City; Dr. Wm. Cunningham, Bay City; Dr. Morton Gallagher, Bay City.

M. GALLAGHER, Sec'y.

CALHOUN COUNTY.

*CONSIDERATIONS OF SOME CARDIAC PROBLEMS.

GEO. C. HAFFORD, ALBION.

I hope no one will expect from the title of this paper that I will attempt to cover all the pathological conditions which may be found to exist in the heart, though I leave discussion open on all points. It is my intention to take

up some, both of the more common and of the more unfrequently met, to present for your consideration. I have been induced to do this today, from the fact that during the past year I have had occasion to study and treat some cardiac lesions which have impressed on my mind certain things in regard to diagnosis and treatment. I believe, too often heart disease, so-called, is treated in a routine way, with the simple diagnosis of heart disease, or perhaps as organic heart trouble, or as a valvular trouble, with no regard to the work the heart has to perform in the specific case, or no thought to the heart muscle or the arterial system, or the many external influences at work. It is a good thing sometimes to review a little anatomy and physiology, and at the risk of boring you or repeating that with which you are familiar, I must ask you to bear with me in a brief review of some of the underlying essentials of diagnosis and treatment of cardiac lesions.

The heart is a hollow muscular structure of great strength, divided into four chambers. It is perhaps unnecessary to review its position, but we must remember that it is a somewhat movable organ, and its position is affected by the position of the body, by respiration and by pathological conditions. It is normally held in position almost entirely by being suspended from the roots of the great vessels emerging from it, which fix only the base, leaving the rest of the organ movable.

It rests on the diaphragm through the pericardium, and may be easily displaced laterally, but rarely either anteriorly or posteriorly. Without stopping to consider changes of position, we remember that they are divided into congenital and acquired, the latter occurring as a result of disease may be due to causes which exert pressure or which exert traction; these many different conditions will readily occur to you. The normal position of the heart, the relation of the pericardium, especially anteriorly, to the chest wall is of the greatest importance from a surgical standpoint, on account of various surgical procedures which have to be performed through this region of pericardial attachment. The heart is in reality a set of pumps governed by the nervous system, and containing a most complex set of valves. The auricles acting merely as reservoirs to collect the blood from the capillary system and empty it into the ventricles, which do the principal work in forcing it through the body. When we consider the size in relation to the work performed, we can begin to realize something of the enormous responsibility, so to

*President's Address, Calhoun Co. Med. Soc., at Marshall, Mich., Dec. 9, 1902.

speak, resting upon the perfect action of all its parts. When we consider the vast amount of work that this organ, weighing only 9 or 10 ozs. does, over 400,000 foot pounds of work in 24 hours, or the equal of a man weighing 165 lbs. climbing a mountain 2644 ft. high, sending the blood flowing through the arteries at the rate of 16 in. a second, and the pulse moving at the rate of 29 ft. per second, sending a portion of blood through the systemic circulation in 23 seconds. When we think of all this work, the mysterious complexity of it all, we wonder that we do not more often have disastrous effects following valvular trouble, but we shall see later that nature often steps in and with as mysterious methods arranges matters by means of a process which we call compensation. Perhaps no other organ is so intimately connected with and influenced by the other structures of the body. So much so is this true that when you begin to study effect and cause of cardiac lesions you find that you cannot make any headway without taking many other conditions into consideration.

Lesions of the valves or of the openings of the heart have always two results. First, the direct effect on the heart muscle; second, the indirect effect on the other organs of the body. Likewise disease of other organs may have a direct mechanical effect on the heart, not only by direct pressure, as an effusion, a dilated stomach or a tumor, but by the influence exerted on the heart through the change of blood current or blood pressure. The study of the heart is made more complicated by the different terms connected with it, which are used to denote the same thing, as regurgitation or failure of compensation, insufficient for obstruction, bicuspid and tricuspid for auriculo-ventricle, etc.

I have taken the liberty to reproduce some drawings from standard works to illustrate. Here is a diagram showing some of the indirect and direct effects on the heart. It is unnecessary to take them up seriatim, but for example, a lesion at the aortic orifice, we have a blowing sound most distinct either during systole or post systolic, denoting respectively stenosis aortic obstruction, or regurgitation, aortic incompetency.

If the former one of the effects is increased work of the left ventricle and we have hypertrophy, now as an example of direct lesions affecting the heart, take a congestion of the kidneys; here we have a part of the circulation cut off, the blood pumped to renal artery comes against an obstacle it is damned back, the heart keeps on pumping blood against a higher pressure, result, harder work and again hypertrophy.

In reviewing the means of diagnosis, in addition to the well known methods of inspection, palpation, percussion and auscultation, modern invention have given us new methods not the least of which is the X-ray, which not alone is of diagnostic value in itself but is of the greatest use in confirmation of other tests. Thus may be seen sometimes with great distinctness the shadow of aneurismal or other tumors, the size and location of the muscle, pericardial effusion, the movement and changes of the size in diastole and systole.

Morritz has used a special instrument which he calls an ortho-diagraph to draw an exact reproduction of the heart boundary, as shown by the fluoroscope. By the X-ray we have learned that in certain cases of weak flabby heart with dilatation the ventricles do not empty themselves completely during systole, a fact which we were not certain of before. The X-ray has also confirmed some of what we formerly supposed were causes of murmur, for instance the pre systolicism of mitral stenosis has been shown by observing the ventricle actually distending during murmur.

We have also learned that valvular lesions are not necessary to dilatation. It may occur with the valvular mechanism perfectly intact. Dilatation is not as rare as formerly supposed; most hypertrophy is probably attended by some dilatation as in most cases dilatation is preceded by some hypertrophy; again dilatation may be the cause of valvular deficiency not by changes in the valves themselves but by a change in the relations. The muscular ring has become too large for a proper fit of the valve, then we have cases of muscular insufficiency; here the valves are normal, fit perfectly, muscle and ring are normal, but through lack of proper nervous stimuli the valve action is irregular or imperfect, heart disease does not mean valvular disease.

The condition of the heart after exhausting exercise in athletics has been studied by different investigators with different conclusions, but the probability is that there is a transient enlargement. Thus Smith found the linear measurements nearly double, but Morritz found no difference. Under exertion carried to the point of producing dyspnea, Schott found a temporary dilatation which has been confirmed by the X-ray. Potain's method of carefully locating the heart boundaries by the usual methods, then drawing on the skin, the location found and transferring to a transparent paper is of great value, the paper in connection with a history and with such slight notes as may suggest themselves preserved for

comparison at future times. The originator was able to demonstrate at autopsies the correctness of his locations by passing long pins through the body on the boundaries determined, and found that very seldom were the pins $\frac{1}{2}$ inch from the true relations as he expected to find them. (Illustrations shown).

But all these mostly serve but to confirm the usual auscultation and percussion methods, and to show that the latter has been and is now to be relied upon. The apex beat may prove very fallacious. In locating it the area over which it may be felt will vary with the force of its movements; when very forcible its impulse can be felt far away from the heart. The change of true heart sounds as well as of adventitious sounds in different postures of the body and after rest and exercise are well worth studying. Gordon gives the following as the changes produced in murmurs by changes of position: "Hemic murmurs are increased by recumbency except the venous hum which it tends to obliterate. The mitral regurgitant, tricuspid regurgitant and aortic direct are increased and the murmur of mitral stenosis decreased, while the aortic regurgitant is not much affected." He explains this change as due to two factors, gravity and the lessening of the depth of the chest, which occurs on assuming the recumbent position. This he has found to cause a change of $\frac{1}{2}$ or 1-16 in. in the depth of chest cavity.

In dilatation fatty degeneration is usually present, though it may be due to other forms of degeneration, and hypertrophy usually exists or is associated at some time in the same heart. Hypertrophy always means conservatism, nature's effort to overcome the extra work, to compensate matters, but dilatation is a sign of nature's weakness and impending danger. Hypertrophy is sometimes divided for convenience of study into that of intrinsic and extrinsic causes, as in renal or pulmonary diseases for example of extrinsic, and stenosis of some opening for intrinsic. It is not necessary to go over the numerous causes, just remember anything which compels the heart to overwork, and when you fail to find any other reason, always think of Arterio-Sclerosis, the most common of all causes. In acute endo-carditis which is usually secondary, there are two types, vegetative and ulcerative with good prognosis in the former, but poor in the latter. "It may be laid down as a rule with but few exceptions that when the heart is performing its work in a proper manner, it needs no medicine, even though murmurs may be plainly audible or hypertrophy plainly exists. But for the benefit of the heart

other organs or conditions must be looked after as quality of blood, rest, exercise, or diet."

Morrisey says, "there are more snap diagnoses made in the realms of cardiac disease than any other part of the body. Do not mistake valvular deficiency, for heart disease; there is a difference between cardiac disease and cardiac failure. Do not be satisfied with examining the heart alone when you find cardiac trouble; eyes, skin, urine, capillary system, occupation of patient, all have their bearing on the cause. The pulse does not always correspond with the heart beat. Billings reports a case where the pulse registered 30 to 40 beats, while the heart by the stethoscope was 40 to 56."

Don't always be satisfied with a diagnosis of one condition of the heart for more may exist at the same time. Jurgensen says, "that the diagnosis of the future will often be 'pancarditis' for most cases of endocarditis are complicated with myo and peri-carditis." Do not be satisfied with an examination from the anterior surface, percussion and auscultation at the back will often clear up a murmur. In examination of the heart posteriorly the region of percussion for the Left Auricle is comprised in a trapezoidal space bounded by the vertebral column, the spinal border of the left scapula and two horizontal lines drawn one through the spine of the scapula, the other through the lower angle of that bone; the limited area of dullness corresponds to the 6th and 7th dorsal vertebra, enlargement occurs in mitral stenosis, and especially in mitral stenosis combined with insufficiency. Barie says, "in mitral stenosis it may be the only available sign." Dullness of the Right Auricle is found by a similar procedure. It is said that in enlargement of the Right Auricle it is in a backward direction, so that percussion anteriorly does not show it. It would be very interesting to take up the peculiar class of conditions of the heart in that complex disease, exophthalmic goiter, also a review of the bacteriological pathology of the different heart lesions, how the different bacteria, the tubercule bacteria, the germs of pneumonia, gonorrhoea, diphtheria, etc., have a part in the origin of the different inflammatory diseases, but time will not permit. The time cycle of the beat, and the different conditions occurring during the cycle, are of the most importance in diagnosis, as well as the location and transmission of the different sounds, the areas of thrill or pulsation, etc., the charts exhibited shows these much better than any description.

The sensations of pain referred to the regions of the heart as symptoms to note in diagnosis are,

says Flinterman, too little studied. They are passed lightly by with the diagnosis of pleurisy, neuralgia, etc., and the true pathological cause of the pain often overlooked.

Nothnagel has collected 483 cases of valvular disease, which show the greatest differences in the frequency of painful sensations observed in the different valvular lesions. To quote farther from Flinterman he "found disturbance of sensation in 60% of all cases of aortic insufficiency, 68% of all cases of aortic insufficiency with stenosis, in 40% of all cases of aortic stenosis," the percentage getting lower with the other abnormal conditions to 7.2-3% in mitral insufficiency, and no disturbances of sensation in stenosis of pulmonary openings. This symptom of pain is one of which little is heard either in discussion or in text-books. We recognize and discuss fully the pain of Anginal attacks, the cyanotic conditions, etc., but the sharp, transient attacks of pain or burning sometimes accompanied with palpitation, those of which the patient complains, but of which we can find no sign, we are apt to pass over as of no diagnostic importance, or to not attach their true import.

I will try and be very brief in dealing with the treatment of heart lesions, just a short review of the underlying principles. When we are dealing with the heart muscle directly there are always one of two essentials, stimulation or sedation. We have a variety of remedies which act directly on the heart, either through the nervous system or vascular system, or to some extent on the heart muscle. Among these we find of the former the stimulants, Ammonia, Alcohol, Strychnia, Strophanthus, Supra-renal ext. Digitalis, Caffene, and among the latter Antimony, Veratrum, Aconite, Prussic Acid, Opium, etc. Among those that effect the heart through the action on other organs are particularly those that change the blood pressure, notably Nitrite of Amyl and Nitro-Glycerin, Pot. Iodide, etc. Then the whole list of tonics, reconstructions, anti-spasmodic, etc., have their use when indicated, and may have an important effect on its work or nutrition.

For years Digitalis has been the principal remedy in diseases of the heart and still continues to be. At the same time it seems to me that it is used the most indiscriminately of any drug I know. It is *the* drug of this class of which we know the most. It has been subject to the most experiments and study, and it seems to me that so much unwarranted use of it, so much use where it is completely contra-indicated is most reprehensible. I do not know whether my experience coincides with most of you, but I

certainly recognize poor practice in prescribing digitalis more than any other drug. The action of digitalis on the circulation is usually divided into four stages.

1st. Rise of arterial pressure accompanied as a rule by the slowing of the heart.

2nd. Continued rise of blood pressure with increase of pulse.

3rd. Continued high pressure with great irregularity of heart.

4th. Rapid sinking of blood pressure, failure of heart, death in systole.

Now with these known actions of drug before us, what are the indications.

We have, say, a case of valvular disease with great hypertrophy; compensation not yet established, heart tired, not able to keep up its action with the weak valve behind it, no evidence that the heart will be able for some time to, by extra strength, from more hypertrophy, be in condition to pump to the tissues the blood demanded. Here is the condition where it seems to me the mistake is made.

Digitalis is given, the heart is made stronger for the time, but blood pressure rises; result, more work for the heart, it tires out, you increase the dose and finally it stops in systole, and you say it would not respond. You know the illustration, "you whip a tired horse." What you should do is to lighten his load. Give more attention to the heart muscle and less to the murmur. Don't use any stimulants unless absolutely needed to tide over a short period, and then only after you have tried the effect of making the load lighter. Use the vaso dilators, Nitrites, Pot. Iodide, Calomel, Diuretics, etc.

Suppose a case of pneumonia, consolidation of a large pulmonary area; the heart is working hard against a high blood pressure is beginning to fail, you have perhaps used aconite on the start, or veratrum, to dilate the capillaries, and so relieve blood pressure, but it is not sufficient and cyanosis and irregular action warn you of impending danger, the heart is weakened still more by the toxins of the disease, here digitalis is of great value, either alone or combined with some other drug, as aconite or nitro-glycerin. It will aid in carrying through a period till the lung begins to clear, the fever to drop, the toxins to be eliminated. You may have to aid it at times by the more rapid acting drugs, of which among all the old ones or new ones either, I would place supra-renal extract at the head. Injection of normal saline solution with or without venesection will clear the blood of toxins and much aid a poisoned heart.

In cases of a weak, rapid, dilated heart, with low arterial tension, it is indicated, why, to hold down and steady the beat to make more time between the beats that the muscle may get more rest and more nutrition. I saw such a case lately, a case of fatty and dilated heart, murmur it seemed at every orifice, man short of breath and having cyanotic attacks, insomnia, etc. This man had actually been, by one of the eastern Professors, put to work in a gymnasium, on a track, running and using dumb bells and clubs. He was kept quiet, put on small doses of digitalis and strychnine, dieted, light massage, and later when he was able was put to doing some light physical culture movements, and he is gaining every day.

In Strychnine I think we have one of the best of heart tonics, especially in cases of tobacco heart, athletic heart, or cases accompanied by nervousness. The error most often made in my opinion is using too small doses. I have used it high as 1/10 grain every four hours for two or three days at a time. In other cases a small dose, but long continued is indicated. It is also a valuable adjunct to digitalis; but I do not care to take up the very important questions of combinations of these different remedies. Strophanthus is often a very valuable substitute for digitalis, but has not the same tonic effect on the arteries. Sparteine is somewhat similar, but weaker and unreliable. Strophanthus is inferior to digitalis as a diuretic but may be preferred in some Arterio-Sclerotic cases. Dyspnea may often be relieved by drugs of most opposite natures, as Morphine, by giving rest, or diffusible stimulants by increasing action and amount of blood in tissues.

Perfect rest of the patient by keeping him absolutely on his back, not even allowing him to feed himself is in some cases demanded. In cases of weak, rapid action, with or without fever, great benefit may be obtained by ice bags to the precordia. Of all the external applications I am familiar with, this is the remedy par excellence, leeches, cups, counter irritations, blisters or otherwise. Just what its mode of action is I know not, but I do know that it will quiet pain, dyspnea, palpitation, and reduce fever. The Nauheim baths, both natural and artificial, and the special system of exercise of Schott, as an adjunct to general treatment, are highly recommended. I have had no experience with the former. The exercise treatment or resistance movements in properly selected cases is of the greatest value. The dietary of heart disease is a subject of the greatest importance, when we reflect on the close relation of the digestive apparatus with the heart, both directly, as from a distended

stomach or colon, and through the reflex nervous system, and of the many cases of palpitation and nervous heart we discover in dyspeptic subjects, we must realize that here is a point well worth paying attention to. If disturbances in the stomach will cause so much trouble in a normal heart, what may we expect in a weak, diseased heart; and this is often a very perplexing and complex study, how to get an overtaxed heart well fed, and the problem is made more difficult when as in many cases we have some other disease as the common one of nephritis, where we have a double reason for careful selection of diet.

One or two precautions about diet are these, small amount of food, feed often, food mostly dry, non-irritating and nutritious. The treatment of chronic valvular troubles with compensation is too long to be taken up, but one very troublesome condition I wish to speak of—Anasarca—this condition I think should be attended from its first symptom, for the edema does harm not only locally but to the heart direct. The tissues being waterlogged, so to speak, offer much more resistance to capillary circulation, consequently more work for the left heart, cardiac asthma and bronchial congestion, non-elimination of effete products all tend to produce a vicious circle. When you have exhausted all the usual diuretics and the fluid with a strict asepis, the point of a fine bistoury or a triangular needle, the limb dressed in absorbant cotton and dressings changed frequently. It is astonishing the large amount of fluid that will be drained away. When strict asepis is maintained there will be but little trouble with sores forming, and such as do will respond readily to simple treatment. The combination of neurasthnia with heart disease is very common, and is peculiarly hard to manage, but we will leave that part for any one who wishes to discuss it later.

Now just a little in regard to Cardiac Surgery, this with most of us must necessarily be in the nature of review, for we do not have the experience in such work and are but just beginning to learn that we might have been able in many former cases to have by surgical intervention done something more to relieve or benefit the case. Not only might we have been able to relieve a struggling heart by aspiration or drainage of the pericardium in case of serous effusion, or of purulent infection, but we perhaps might, by timely action, have boldly sutured a wound and saved a patient. In a recent paper before the American Medical Association, Ricketts says, "nothing indicates more clearly the lack of confidence in surgical intervention in lesions of the heart than

that they have been treated as Anomalies." The best history of the surgery of the heart is to be found in a work which treats of Anomalies and Abnormalities. They of themselves show that the heart is more susceptible to injury, disease and surgical operations than generally supposed. Simple puncture with a needle was at one time thought to result in instant death, indeed such thought generally prevails at this time. The operative work in the pericardium aside from emergency work may be divided into aspiration, incision and incision after preliminary resection of a costal cartilage, as the available methods. Some surgeons condemn aspiration in toto, and teach that the comparatively slight danger from open incision is more than compensated for by the absence of danger of not perfectly draining—draining from some other part than the pericardium as from pleural effusion, wounding the pleura or mammillary intercostal or coronary arteries, or the heart muscle itself, or infection by the escape of fluid through the puncture into the pleural cavity and mediastinal space, simple incision may be made $2\frac{1}{2}$ inches in length at the level of the fifth costal cartilage, the pericardium being opened a little above the diaphragm. A second line or incision may be made in the fourth space if necessary, and part of the fourth and possibly part of the third cartilage resected. Through this opening we can get drainage, practice lavage, separate adhesions, or even suture wounds of the heart muscle itself. The edge of the exposed pericardial membrane may be secured to the edges of the wound, thus facilitating subsequent drainage and washing, or a drainage tube may be left in case of purulent effusion. Ricketts says, "the heart is very susceptible to alkaline solutions, which accelerate it, but there is no way of knowing whether the heart will absorb any degree of fluid which has been left in the pericardium, neither has observation been made upon the ability of the pericardium itself to do so. It has, however, been determined that the heart will not withstand a high degree of pressure from fluid or otherwise within the pericardial space. It will stand greater pressure if the pressure is gradually increased, as is the case in pericardial effusion resulting from pericarditis. It will, in a normal state, absorb more or less of its exudate and it will probably have a greater capacity to absorb in a pathologic state." Among the many interesting experiments recorded in the article quoted is one of ligation of the coronary arteries without producing death, and one of resuscitation by pinching the heart apex to stimulate the beat. In the Medical Record, of Nov. 29, 1902, Hill

reports a case of successfully suturing a wound $\frac{3}{8}$ of an inch of the left ventricle, and gives a table of 37 other cases reported, and concludes from his own experiences, and a review of the cases tabulated, that any operation which reduces the mortality of a given injury from 90 to about 63 per cent. is entitled to a permanent place in surgery, and that every wound of the heart should be operated upon immediately. In any case where there is a suspicion of a wound of the heart exploratory, operation should be performed at once. Unless the patient is unconscious and the corneal reflex abolished, an anesthetic should be given, preferably chloroform. Struggling is liable to produce a detachment of the clot and renew the hemorrhage. Never probe the wound, as serious injury may be inflicted on the myocardium. Roter's operation renders access to the heart extremely easy, and should be generally adopted. Steady the heart before attempting to suture it, either by carrying the hand under the organ and lifting it up, or, if the hole is large enough, introduce the little finger as did Parozzani, which will serve the double purpose of stopping the bleeding and facilitating the passage of the stitches. Catgut sutures should be used, as wounds of the heart heal in a remarkably short time, and they should be interrupted, introduced and tied during diastole, and not involve the endocardium. As few as possible should be passed, preventing leakage, as they cause a degeneration of the muscular fiber, with its tendency to dilatation and rupture. In cleansing the pericardium it should be sponged out, and no fluid poured into the sac. Perfect cleanliness should be secured except in cases where instant intervention is required. The wound in the pericardium should be closed, and if symptoms of compression appear, reopened and drained.

DISCUSSION.

O. S. PHELPS, BATTLE CREEK.

There is one point in Dr. Hafford's paper, bearing upon the effect of capillary obstruction, that is of particular interest, and perhaps has a more important bearing upon some cardiac conditions than most of us realize. In many cases of valvular incompetence the valves themselves may be entirely normal, and the regurgitation is caused not by strictly valvular incompetence, but by a stretching of the valve openings, due to two principal causes,—capillary obstruction to the circulation, and mal-nutrition of the heart muscle itself.

In the study of the blood a large number of these cases of valvular incompetence, marked pathological changes have been observed, among which is a change in the condition of the fibrin, produced by the absorption of some of the acids of decomposition, particularly acetic acid, which is well known to have a decided effect upon the blood fibrin. The manifestation through the microscope is that of minute filaments, in such quantities in some specimens that they give the appearance of a bunch of straws crossing each other in infinite confusion. It will be easily seen that this alone would produce considerable obstruction to the passage of the blood stream through the smaller capillaries. Added to this is the increased size of many of the white blood corpuscles, some of them having become giant cells, and, having entirely lost their power of amoebic motion, cannot pass the small capillary vessels at all. When we comprehend the vastness of the capillary circulation and the effect that these pathological changes in the blood would produce, we can readily realize how much extra effort the heart muscle must put forth to accomplish its work; and we can see that if, added to this there be a lack of tone in the heart muscle itself, it is not a farfetched conclusion that there should be a gradual giving away and stretching of the valve openings that would give us the phenomena of valvular incompetence.

Referring to the acid feature, we can easily understand that the fermentation of the starches and sugars would give an abundance of acetic acid, and this, with the depressing effect of the carbonic acid gas (which is also one of the important products of yeast fermentation, benumbing the entire mucus surface with which it comes in contact) gives us all the elements necessary to produce the above condition.

ANGUS MCLEAN, DETROIT.

There is but little new in the development of heart surgery. The tissue of the heart, when injured, heals as rapidly as any other tissue. Operations with trochar present a danger because of the liability of the septic fluid after being drawn into the trochar from the endocardium dropping into the mediastinum as the trochar is being withdrawn, and setting up septic inflammation.

A. W. CRANE, KALAMAZOO.

I consider blood pressure in regard to the work of the heart as due to capillary congestion in the lungs. It is difficult for any physician to be able

to tell by palpation of the pulse the blood pressure. Gartner's Tonometer, an instrument that you have all heard of for determining the blood pressure, is a thoroughly practical instrument, easy to apply, and is reasonably accurate. It is, however, open to some objection. A patient comes into your office. He has been unable to lie down, he spends the nights in a rocking chair, he works hard as a farmer. Give him digitalis, tell him to lie down if he can. If digitalis does not help him, take the blood pressure with the tonometer, it might be 93-100. Give him nitro-glycerine, not 1/100 of a grain, give him, perhaps, 1/10 of a grain, give it to its physiological action. If your man can lie down in your office and breathe easily the capillaries will be entirely contracted. If you can send such a man to his home, you can yourself give nitro-glycerine while sitting by his bedside. In regard to the use of the X-ray. Stand the patient up before the screen. You can see the form of the heart, see the beat, see any dilation. Of course it is very easy to see the working of the left ventricle, left oricle and right oricle, but the right ventricle, for an X-ray examination, lies back of the heart, bringing it out of reach. On this chart the doctor has drawn the line of the right ventricle. But by changing the patient's position and looking at this from the side, the right ventricle will be shown.

DELTA COUNTY.

At the meeting of the County Society, held at Gladstone on the 8th inst., the following members were elected to membership: Drs. William McCallum, George Bjorkman, C. E. Watson, all of Gladstone.

Election of officers resulted as follows: President, D. N. Kee, Gladstone; Vice President, A. L. Laing, Rapid River; Secretary, Harry W. Long, Escanaba; Treasurer, William Elliott. Delegate to State Society, Richard S. Forsyth, Gladstone.

I also wish to announce a regular monthly meeting of the Delta County Medical Society held at Escanaba, Feb. 12th. Papers presented:

1. Lobar Pneumonia, H. W. Banks, Escanaba.
2. Asthenopia, Wm. Elliott, Escanaba.
3. Case Reports, Geo. Bjorkman, Gladstone.
 - a. Gastric Hemorrhage accompanying pregnancy.
 - b. Iodoform Poisoning.
 - c. Septicaemia following abortion.

HARRY W. LONG, Sec'y.

GENESEE COUNTY.

The January meeting of the Genesee County Medical Society was held at Flint, January 27, with the President, Dr. Chas. S. Wheeler, in the chair.

Sixteen applicants were elected to membership, making a total of forty-nine members.

Dr. G. V. Chamberlain was chosen delegate to represent the society on the Board of Delegates of the State Society, and Dr. J. C. Willson, Dr. R. H. Murray, and Dr. J. F. Rumer were appointed by the President as a Legislative Committee.

The afternoon was devoted to the study of the blood. Dr. Albert Lynch presented the practical side of the subject and demonstrated the various methods of clinical examination. Dr. Thaddeus Walker, Hematologist to the Detroit Clinical Laboratory, read a paper on "The Value of Blood Examination to the General Practitioner." Dr. R. H. Murray exhibited some interesting pathological specimens, after which the Society adjourned to partake of a luncheon tendered by the Board of Directors.

H. R. NILES, Secretary.

JACKSON COUNTY.

The following is the program of the January meeting of the Jackson County Medical Society, held January 6, 1903:

Reading of minutes.

Admission of new members.

Payment of dues.

Election of officers and delegates.

President's address—The Medical Profession of Jackson County, Dr. A. E. Bulson, Jackson.

The Etiology of Carcinoma with Special Reference to the Parasitic Theory, Dr. F. A. Baldwin, Ann Arbor.

Observation upon the Technique of Abdominal Surgery, Dr. H. O. Walker, Detroit.

Irrigation Treatment of Gonorrhoea, Dr. Harry S. McGee, Jackson.

R. GRACE HENDRICK, Sec'y.

MECOSTA COUNTY.

The annual meeting of the Mecosta County Medical Society was held in the Big Rapids Club rooms last evening. Officers were elected as follows:

President—Dr. Joseph McNeece, Morley.

Vice-President—T. W. Noble, Remus.

Secretary and Treasurer—Dr. F. C. Terrill, Big Rapids.

Dr. L. S. Griswold, of this city, was chosen as delegate to the State Society meeting.

A paper was read by Dr. A. A. Spoor on the use of the microscope in diagnosis of consumption. It was discussed by Drs. Griswold, Dodge and Terrill. Dr. Dodge presented reports on the use of the X-ray in the treatment of cancer. After the close of the meeting the doctors adjourned to Rodman's cafe, where they were entertained by Drs. Griswold and O'Hara at a "Dutch lunch." Nearly all responded to toasts presented by toastmaster Griswold. Thirteen were in attendance, among them being seven from out of town. Two new members were added to the society, which now numbers 23 members.

R. C. TERRILL, Sec'y.

MONROE COUNTY.

The society met on the afternoon of Jan. 22nd, with Dr. Sissung in the chair. Two papers were read, one by Dr. V. Sissung on the "Etiology of Cancer," and the other by Dr. Root on "Modern Diagnosis." Dr. E. W. Cooper was prevented from being present because of illness, and his paper will be presented at our next meeting.

Drs. Heath, Valade and Root were appointed a committee on "Medical Legislation."

Dr. P. S. Root was elected to represent this society in the House of Delegates.

P. S. ROOT, Sec'y.

ST. JOSEPH COUNTY.

St. Joseph County Medical Society met at the rooms of the Womans' Club, Mendon, Feb. 10, 1903, President Sabin in the chair. The secretary, Dr. Williams, of White Pigeon, was absent and his place was filled by Dr. S. R. Robinson, of Sturgis.

Dr. Ferguson, of Sturgis, read an able paper on pneumonia.

Dr. Knowles, of Three Rivers, read an interesting paper on fractures about the elbow joint. This paper was discussed by T. J. Haines, of Three Rivers; F. W. Robinson and S. R. Robinson, of Sturgis, and Partlad, of Constantine.

Obstetric antisepsis was presented in a well written paper by Dr. Kingsley, of Centreville.

The attendance was good and a good feeling prevails. The next meeting will be at Centreville, March 10.

JOHN R. WILLIAMS, Secretary.

UNION COUNTY.

The officers of the Union County Medical Society are continued unchanged until January, 1904, as follows:

President—John Avery, Greenville.

First Vice-President—N. E. Buchanan, Stanton.

Second Vice-President—F. R. Blanchard, Lakeview.

Third Vice-President—Geo. O. Stanton, Belding.

Fourth Vice-President—L. S. Cratser, Edmore.

Sec.-Treas.—H. L. Bower, Greenville.

H. L. Bower was elected delegate to State Convention in June. H. L. BOWER, Sec'y.

VAN BUREN COUNTY.

INFANT FEEDING AND MILK MODIFICATION.

LOREN CURTIS,
Paw Paw.

The literature on this subject has increased so rapidly during the last three or four years, and so many different methods have been devised, that it is impossible to do this subject justice in the limits of a short paper. This article deals with those infants that cannot have breast milk. The real progress made in infant feeding may be summed thus: Human milk being the baby's natural food is therefore its best food. If a child is deprived of the breast it should have cow's milk modified to resemble mother's milk.

There are three substances in human milk with which we have principally to deal, fats, carbohydrates or sugars and proteids or nitrogenous matters. Arthur V. Meigs, of Philadelphia, claims a great advance was made in laying the foundation of accurate percentage feeding when he found by a series of experiments that human milk never contains more than seven per cent of sugar and from seven tenths to one and one-half per cent of proteids. His paper was read in 1882. Though you will now scarcely find two authorities giving the same percentages of fats, sugars and proteids in either mother's milk or cow's milk, nearly all agreeing that they vary from day to day, but still within certain well defined limits.

Abram Jacobi, of New York, says only one great progress has been made in infant feeding these dozen years, that is, the more or less universal introduction of heating cow's milk or other substances used in infant feeding, and this so long as it is difficult to get pure milk and pure water can hardly be dispensed with. But

sterilization and *pasteurization* has been carried out where there was practically no need of it, and probably always injures the nutritive value of the milk.

Holt says, "There is no trouble in feeding an infant, if you can begin when the baby is well."

Rotch, of Boston, is the father of milk modification which, with all its faults, is probably a step in the right direction.

Proprietary foods are not to be used, though they may be all right under certain circumstances.

Nicholas Senn condemns the use of patent splints in the treatment of fracture, saying, practically that a man who can't improvise or make his own splint to suit the individual case, has not the ability to properly treat a fracture, and there is certainly less individualization in the dressing of fractures than in the digestion of an infant.

The milk of a herd is now considered better than that of a single cow, as it varies less.

Forchheimer, of Cincinnati, prefers the milk of the old long horned common cow to that of the high bred Jersey or Holstein, as they are said to have more resistance to disease.

There is still much discussion concerning the subject whether the infant should have its food made gradually stronger till about the 12th or 15th month, when it can take whole milk, or whether Meigs is right in giving the baby a formula which as nearly resembles mother's milk as possible and continuing this until the child can digest cow's milk.

Since I became interested in milk modification, I have not had what you would call an extensive experience in infant feeding; but I have had sufficient opportunity to try the principles of milk modification to warrant my continuing their use.

I have had considerable difficulty in getting parents to carry out the directions, for as soon as the baby was out of an alarming condition, I would often find that some old woman across the road had recommended some simple mixture of milk and water, and my more elaborate formula was laid aside, unless the child again became worse, as being too much trouble to prepare or the milk sugar *too* expensive.

When I first became acquainted with the idea of trying to give accurate percentage feedings, from the standpoint of a man who isn't a chemist, I confess I was inclined to scoff at the notion; for it is "more pleasing to our vanity to profess skepticism than to avow ignorance." But I now believe, even from a limited experience, that milk, cream, boiled water, lime water and sugar of milk combined carefully, according to some adopted scale of percentages, is more scientific

and will lead to better results than the hit and miss plan of former years.

I know of an instance where a puny baby in a critical condition was taking a mixture of milk, cream and water in such proportions that the food was actually stronger than cow's milk. This is something liable to occur in the practice of any one who is not systematic. You see the baby day after day, and it is getting worse, the parents are distressed and you have exhausted your expedients, you have told the mother or nurse to add a little more sugar to make it gain weight or a little more cream to overcome constipation and they, having no definite formula to go by, have used their own judgment and put in maybe more than you intended, and by and by you may discover, after the funeral, that you might better be thoroughly systematic in feeding infants if you wish to be successful in difficult cases.

In the feeding of infants, as in everything else, if you wish to succeed you must individualize, what one baby will thrive on, another will not. But the question is, how are you going to individualize? When you see a baby, how are you going to tell whether he is getting too much proteids or not enough? How are you going to know that he isn't getting enough fat or enough sugar, and when you guess at it and guess correctly, then how are you going to increase its proteids or fats or sugars in any reasonable manner unless you have some one adopted scale of percentages to follow in making your food. Even if the scale of percentages is not scientifically correct, it will be better than an unsystematic plan.

It is not difficult to feed a healthy infant, if the baby is in an intelligent family, and that I think is why there has been so much bitter discussion in regard to the matter. It is possible that a healthy child thrives in spite of its method of feeding. Just as man, sick with a self limited disease, when he is well again you can't always tell whether your medicine cured him.

All the specialists (Rotch, Cotton, Holt, Davis, Smith, etc.,) on the subject seem to have slightly different methods of modifying cow's milk to resemble breast milk, and they all claim to be more or less successful. It is all very well for a popular city practitioner to call at a palatial residence, go to the nursery where a well trained nurse gives him a correct report of the infant's condition, write out a prescription for the baby's food, for say: 3 37/40% of fat, 6 15/16% of sugar and some other hair splitting percentage of proteids; have this taken to a Walker Gordon Laboratory and the food comes already for the baby, as accurate as modern science can prepare it. Now let the same

man go to a family in moderate circumstances and he must vary his method, and again, if he visits the children of the poor, he can't advise about cream mixtures where they are fortunate to get milk.

Now the method that I follow is this: If I see a baby at the breast and it is not doing well, I get some of the mother's milk in a test tube, let it stand 24 hours, and make a simple examination. Notice the amount of cream rising on the milk, the color of the milk, take the sp. gravity and the reaction.

High fats lower the sp. gravity. Low fats raise the sp. gravity. A high sp. gravity with high fats (and you can judge by the eye, see the amount of cream) would indicate excessive proteids. Sugar seldom gives any trouble. Now if by changing the mother's habits or her environments you can make her milk better, and the baby does well, you have accomplished your object. But if the baby is failing and I can not find another cause, I would take it away from the breast and begin with a low milk modification, that I felt sure the baby could digest, then I would gradually increase the percentages of fats, sugar or proteids until I had something on which the baby was gaining weight, and I would insist on seeing the child once a week.

Holt says, "Regarding the exact indications according to which the fat, sugar and proteids are to be varied, much is yet to be learned." He summarizes as follows: "If not gaining in weight without special signs of indigestion, increase the proportion of all the ingredients, if habitual colic, diminish the proteids. For frequent vomiting after eating, reduce the quantity, for the regurgitation of sour masses of food, reduce the fat and sometimes also the proteids, for obstinate constipation increase both fats and proteids. Though it is probably a mistake to increase the fats to over 4%.

The scale of percentages which I follow is, mother's milk

F.—4% S.—7% P.—1½%.

Cream is 16% fat, approximately.

Cow's milk contains about F—4%, S.—4%, P.—4%.

In infant feeding it is convenient to make use of a 12% and an 8% cream. Two parts of cream and one milk will give a 12% cream and two parts of milk and one of cream will make an 8% cream. By diluting a 12% cream it has been found that you can get a large number of formulas, the fats and proteids being in the ratio of 3 to 1. By diluting an 8% cream you get formulas, the fats being to the proteids as 2 to 1. By diluting plain

milk the ratio is about equal. These various cream mixtures contain about 4% sugar and by remembering that 5 grains to the ounce make a 1% solution, you can add your milk sugar and make it any percent you desire.

Now by using the above data and some common arithmetic you can by diluting with boiled water make a large number of formulas that are approximately correct, and you know what the baby is taking. But of course the baby may be so obstinate that you may have to add lime water or starch in the form of barley water or even raw beef juice, or he may thrive only on oatmeal gruel, or you may have to throw away the whole theory and give him plain cow's milk.

IN CONCLUSION.

Children are sometimes so easily fed that it misleads us in regard to the excellence of the method of feeding.

That the method should be broad enough to give ample opportunity to individualize.

That the ideal method is probably not yet perfected.

That it will be perfected not in the laboratory but by the bedside.

In the language of Meigs, "Could any field in medicine make fairer promises to those who will interest themselves in it than one which offers the opportunity to prevent rather than cure disease."

It seems to me that milk modification gives us a chance to practically fulfill all the well known six essentials of infant feeding. 1st. The food must contain all the ingredients of mother's milk. 2nd. It must be administered in form suitable to the physiological requirements of infant digestion. 3rd. The quantity should represent the equivalent of from 1 to 3 pints of mother's milk during 24 hours. 4th. It should be partly animal. 5th. It should contain the antiscorbutic element raw. 6th. It must be sterile.

Milk modification is not quite so easy for the doctor or for the parents as some of the old methods, but if we are to believe those men who have had the greatest experience with children it undoubtedly saves funeral expenses, which is about the only thing the public tolerate medical men for anyway.

WAYNE COUNTY.

There are three hundred and twenty-six paid members in the Wayne County Medical Society, thus giving it seven delegates to the Michigan State Medical Society. On January the fifteenth the following were elected as delegates: W. F.

Metcalf, F. B. Tibbals, G. W. Moran, A. D. Holmes, David Inglis, H. A. Wright, E. L. Shurly.

Bay County, Lapeer County and Mecosta County Medical Societies seem to be the only county societies that wish to cooperate with the Wayne County in the legislative matters. Others should respond.

During January the following papers were read:

"The X-rays in the Treatment of Malignant Disease, with Lantern Slide Demonstration," by Dr. Wm. A. Pusey, of Chicago.

"Heredity vs. Bacteriology," by Dr. O. C. Brown.

"Sanitarium Treatment of Pulmonary Phthisis," by Dr. E. L. Shurly.

Heart Disease—

"Etiology and Pathology," by Dr. J. F. Bennett.

"Diagnosis and Prognosis," by Dr. Wm. M. Donald.

"Treatment," by Dr. F. B. Ambler.

Genito-Urinary Surgery.

"Surgery of the Kidneys, Ureters and Bladder," by Dr. Hal C. Wyman.

"Surgery of the Prostate and Urethra," by Dr. F. B. Walker.

The different sections presented the following:

Surgery—"Chronic Proctitis," by Dr. J. A. MacMillan.

"Acute Yellow Atrophy of the Liver as a Sequel to Surgical Operation," by Dr. Max Ballin.
Internal Medicine and Pathology—

"Cystic Degeneration of the Kidneys," by Dr. J. E. Clark.

"Pathology of Cystic Degeneration of the Kidneys," by Dr. Heneage Gibbes.

Obstetrics and Gynaecology—

"Instrumental Obstetrics," by Dr. J. E. Davis.
Eye, Ear, Nose and Throat—

"Malignant Disease of the Ear," by Dr. Don M. Campbell.

*SOME OBSERVATIONS IN THE USE OF OBSTETRICAL FORCEPS.

JAMES E. DAVIS.
Detroit.

The expulsion of the products of pregnancy is to nature the Sum Bonum of her surgical operations, and provided with conditions of normality in physiological processes, maternal efficiency and conformity in type of product it is necessary, for

*Read before the Section on Obstetrics and Gynaecology of the Wayne County Medical Society.

ideal results, to have only asepsis and non-interference on the part of obstetrician and nurse. The obstetrician, then, is nature's chief assistant in her first capital operation, and in this work he commands the advantages of what is to-day a creditably developed art, the master production of which is the forceps.

If parturition is the most frequent of operations and the occasion of very certain responsibilities, it follows that the highest possible proficiency is necessary in the obstetric art. As the forceps is used and indicated so frequently, and their manipulation is of such a varied character and always fraught with the double responsibility of answering for the life of the child and mother, or for the health of one or both, it is ever profitable to review or enlarge upon the specific knowledge possessed. This essay is an outline study of the contraindications, indications and application of the forceps. It is necessary, in treating a subject of this character, to list a certain number of classic teachings. These I shall express as tersely and appropriately as possible. The *anatomical* contraindications are:

(a) Contracted pelvis, e. g., when the conjugate vera is less than $3\frac{1}{4}$ inches.

(b) A fetal head that is too large or too small, because the diameter of the forceps averages $2\frac{3}{4}$ inches.

(c) Too great a disproportion between the pelvic outlet and the fetal head.

The *physiological* contraindications are:

(a) Undilated os uteri—except when maternal or fetal life is threatened, or there is likely to be a rupture of the uterus or, in rare instances, of a partly dilated rigid os.

(b) Unruptured membranes.

The *mechanical* contraindications are:

(a) A non-engagement of the head at the brim with its largest diameter in the interspinal line—except when rupture of the uterus exists or is impending.

The *forceps* is indicated in:

(a) Protracted labor.

(b) When general or local conditions cause danger to the mother.

(c) When there is danger to the child.

(d) When the foregoing contraindications are not present.

The forceps is essentially a traction instrument, but it must be remembered that traction exerted upon the fetal head within the parturient canal causes a compression force equal to about one-half of the traction force. The mission of

the forceps is to increase the vis a tergo, and the problem before the obstetrician is, finding the direction of least resistance, and not the making of an artificial accommodation in diameters of the passenger and passage. The greatest and most frequent error made is that of missing the line of least resistance and thereby directing the natural and artificial propellants toward an impossible exit. The disproportion of head and pelvis is surprisingly corrected by the moulding process, which is nothing more than expellant force in the direction of least resistance, plus correct compression force. If it were always possible to direct traction in the line of least resistance and have the compression force transmitted correctly, the value of the forceps would be greatly enhanced.

The most important indications for the use of the forceps is in cases of feeble action of the uterus and accessory muscles, due to exhaustion; when to apply the forceps depends upon good judgment based upon a careful consideration of the expulsive and resistant force. If the resistant forces are plainly overbalancing those of expulsion and there is no indication that any change will take place, it is time to assist. The habit of waiting exactly two hours and, if no progress has been made, then proceed, is not scientific. It happens very frequently that most excellent results can be secured by administering one-eighth to one-quarter grain of morphine sulphate at the time when progress has ceased. After this the patient will rest and sleep four or five hours, then resume and terminate her labor promptly and easily. This procedure is indicated most frequently when there is a secondary diminution of the labor pains, that is to say, the uterus at first contracts vigorously, but later becomes fatigued because of some obstacle which can be removed successfully by a longer continuance of the regular contractions.

The exact position of the head should nearly always be known before the application of the forceps is made. The best positive index is the ear; the direction of its rim will be toward the occiput. Usually this can be ascertained without difficulty if the patient is anesthetized and the full hand is passed high enough.

Sufficient time and care should be observed when introducing the forceps blades to secure conformity with the sides of the pelvis or the sides of the fetal head. If the blades cannot be locked easily a readjustment should be made.

The question of whether Smellie's rule of applying the blades to the sides of the fetal head, or Saxtorph's, which applies them to the sides of

the pelvis, is preferable, is yet debatable. Continental obstetricians follow Smellie, while English obstetricians follow Saxtorph. The application to the sides of the pelvis is easier and safer for the average operator.

There appears to be a prevailing habit with inexperienced operators to hurry unnecessarily when applying forceps and also when delivering. This multiplies dangers for both mother and child, excepting where some special indications are present. Usually there is not a single valid objection to at least one hour being used for this work, during which time the blades may be unlocked and readjusted one or more times if necessary, and the operator should feel no embarrassment whatever in so doing. Not infrequently an earlier and easier delivery with less injury to mother and child will be obtained when a second or third application is made.

The action of the forceps is that of a tractor, compressor, lever and rotator. The two first named forces are always present and inseparable. Tractile force should never exceed eighty pounds, and should always be exerted in the axis of the parturient canal. The compression force is of utmost importance, as the child's life is directly endangered if this force is either too great or too long continued. I make it a habit when exerting tractile force to have each application of short duration, and in the pause the blades are unlocked and the direction of the blades observed. This is done for the purpose of determining the line of least resistance.

The short intermitting compression force will insure a much greater degree of safety to the child, and the frequently suggested axis of the pelvis makes it much easier to avoid the resistant forces, thereby reducing the required tractile and compression forces.

It is taught by some that the lever force is most important, and some demonstrations I witnessed made me follow, for a time, what is a pernicious application of the same. The method consists in swaying the instrument handles from side to side just as far as the soft parts would permit, thereby making a fulcrum of the soft parts at each side. The result followed of bruised pelvic outlets and neglect of the tractile force, frequent injuries to the child's skull, and rapid delivery of the child. It is not permissible to use more than the slightest pendulum movement, and this must be coincident with traction.

It is always a dangerous procedure to use rotary force for correcting faulty positions. If used at all, a perfect understanding must be possessed of all the prevailing conditions. Natural

rotation must, evidently, be impossible, and the operator must be sure of his skill. There are occasions, when the head is presenting at the perineum, that a little rotation may save a tear or aid somewhat in extraction. The straight forceps is preferable to the double curved instrument for rotation.

I find an advantage in removing the forceps (if not held too tightly by the tissues) before the head has cleared the perineum. In all manipulations with the forceps the utmost advantage is obtained from a cool, calculating control of one's self. The work is a master study in mechanics, and demands, at all times, the highest perfection of operative skill.

HUGH MULHERON, Secretary.

WASHTENAW COUNTY.

Prof. Geo. Dock, of the University of Michigan, has taken his family to Los Angeles, California, for a few weeks' vacation.

Communications.

PRELIMINARY REPORT OF FIRST FIFTY CASES PERSONALLY TREATED BY THE X-RAY.

Detroit, February 14, 1903.

THE EDITOR: I respectfully submit the following report:

In estimating the absolute value of this report, it is only fair to the treatment to state that thirty-eight of these fifty cases were inoperable, recurrent or hopeless, because of the advanced stage of disease at beginning of the treatment, but in no case was the ray allowed to be substituted for the knife: 37 were carcinoma, both deep and superficial; 13 sarcoma; 19 females and 31 males, ranging in age from 18 to 84. Over a year has elapsed since the largest percentage of these cases have been discharged.

	Cases. Per cent.	
Ending fatally	10	20
Discharged unimproved, or discontinued treatment	5	10
Referred for operation.....	4	8
Improved and still under treatment	8	16
Referred to other operators of X-ray	4	8
Clinically cured	19	38

H. R. VARNEY.

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Original Articles

INTRATYMPANIC INJECTIONS OF PILOCARPINE IN CHRONIC CATARRHAL DEAFNESS.*

ROBERT WINTHROP GILLMAN,
Detroit.

Politzer, some fifteen years ago, recommended the employment of solutions of pilocarpine introduced into the middle ear for the relief of certain cases of chronic catarrhal deafness. He is still following this practice, and strongly asserts that favorable results are almost sure to follow its application in the hypertrophic form of the disease.

For the past two years I have been treating many cases of O. M. C. C. with intratympanic injections of pilocarpine, and, although I have not observed any astonishingly favorable results follow this medication, yet, on the whole, I feel satisfied

that some patients were benefitted by its use. To be sure, each treatment was not restricted to this local injection. Vibratory massage to the affected drum-heads was applied in all cases permitting of it. Any pathological conditions found in the nares or pharynx were attacked, and the general health and hygiene of the patients were most carefully considered, and in almost all of the cases improved.

The method of introducing the solution into the middle ear consists in first passing the eustachian catheter, using the diagnostic tube in order to determine the permeability of the eustachian tube. Five to eight drops of a one to two per cent. solution of the muriate of pilocarpine, warmed, are dropped into the catheter and by means of the Politzer bag the solution is forced into the middle ear. Frequently the hearing after the injection is made temporarily worse, but usually the patients complain of no discomforts. I have never observed salivation follow an injection of this quantity and strength.

*Read before the Detroit Ophthalmological and Otological Club Dec. 2, 1902.

I usually treat the patients every alternate day, for the first month, twice a week, for one or two months, and then discontinue the treatment for a period of rest.

Several patients who have been in my charge from season to season for six or seven years, growing steadily harder and harder of hearing, since adding pilocarpine injections to their treatment, have held their own for the past eighteen months. On the other hand many cases of chronic catarrhal deafness were not any more affected by the pilocarpine medication than by other treatment, and progressed to the bad in spite of all my efforts to effect an improvement or even a halt on the muffling of the drums in this too common affliction of mankind.

An unusual and, to me, unaccountable condition was brought to light in the following case under the pilocarpine treatment: L. A. C., aged 42, lawyer, first consulted me seven years ago, complaining of slight difficulty in hearing general conversation. Mother was profoundly deaf since girlhood, and members of her family were also deaf. Patient was fearful of hereditary influence in his case, although his three brothers and one sister possessed normal hearing. A careful physical and functional examination of his hearing apparatus revealed but slight evidence of an abnormal condition. A few months after this consultation he found himself markedly hard of hearing, and during my absence in Europe, consulted an aurist who treated him, on and off, for two years, when he again came to me and I have had him under my professional care ever since. His case is one of typical simple O. M. C. hypertrophic. One year ago Dr. Fred Whiting, of New York, examined his ears, and his diagnosis of the case agreed with mine. He gave him a gloomy prognosis,

saying the condition was such that it would progress slowly or faster depending on how he cares for or neglects himself. In August, 1901, the hearing of his right ear was reduced to hearing ordinary conversation at 12 feet distant and a whisper at 10 feet away. With the left ear ordinary conversation could be heard at 15 feet distant and a whisper at 10 feet.

Injections of five or six drops of a 1% solution of pilocarpine were now incorporated in the treatment which he had been receiving, and which consisted in most part of spraying the nasopharynx and neumatic massage of the membrana tympani. In six months, the hearing distance of the right ear had improved two feet for both ordinary conversational voice and a whisper. The hearing of his left ear, which had always been the more acute, was reduced to 12 feet for ordinary conversation and 4 feet for a whisper—a loss of 3 and 6 feet respectively. Tests made each month since February show conditions unchanged. Whether the pilocarpine injections are responsible for an improvement in the hearing of one ear, and a decided curtailing in the hearing distance of the other, and the reasons therefor, I am not prepared to state.

Case 2. Mrs. F. C. B., aged 32, first consulted me in the fall of 1899, with the history of having suffered about one year from marked hardness of hearing of the right ear with subjective noises in the head. On examination I found the right ear suffering from simple O. M. C. hypertrophic. Left ear was normal. The right ear could not hear ordinary conversation at 12 feet distant. I had her under my care for three months, and during this time there was no improvement in her condition. As she was starting on a Euro-

pean trip, I advised her to consult an aurist, which she did, on reaching Paris, and who advised her to have no treatment, as her hearing could not be improved. I wrote her to consult Prof. Politzer, at Vienna; on seeing her he placed her under the "Pilocarpine injection treatment" for six weeks. She noticed an improvement in the hearing of the right ear very soon after beginning this treatment, and at the end of six weeks she was delighted to find herself with equally as acute hearing in the right ear as in the left one. She has had several returns of the complaint in the right ear since her return from Europe in 1901, but it yields promptly to a 1 per cent. solution of pilocarpine injected into the tympanic cavity, and pneumatic massage to the drum-head.

Perhaps no disease to which the flesh is heir demands quite so much courage both on the part of the patient and physician as chronic catarrhal deafness. The etiologist knows well, from constant contact with these unfortunates, not to paint a rosy future for their inspection. The surgeon should seek to arouse in the patients the hope that the disease may be arrested or at least its progress retarded, and they should be informed that their ears are in such a condition that they should receive regular attention. This course will do much to prevent the patients from becoming despondent, a result which is often observed.

In short, from my experience in the use of pilocarpine injections in chronic catarrhal deafness, there would seem to be cases in which, when taken with allied treatment, it proves absolutely effective; while in others it may simply avert the worst consequences; and in a third, and perhaps the most frequent class, the disease fails to respond to its influence.

TREATMENT OF PUERPERAL SEPSIS.*

WM. F. METCALF.
Detroit.

I can think of no more important subject for your consideration than the Treatment of Puerperal Sepsis. I present only my own reading of the clinical phenomena of this fearful affection.

All inflammatory conditions of the genital tract should be properly treated before conception. In cases in which the symptoms of peritonitis appear within twenty-four hours of delivery the cause is usually found to be a ruptured abscess of tubal or ovarian origin. Such cases usually die within three days. When endometritis exists there is more likely to be adherent placenta which increases the liability of infection. When there has been a previous gonorrhoeal vaginitis the vulvo-vaginal glands usually harbor the infection. Many women become infected by their husbands during the later months of pregnancy, the infection traveling up the tract after delivery, preventing complete involution and causing tympanitis and fever. The majority of such cases, I believe, recover with impaired organs regardless of treatment. The accoucheur should insist upon the employment of a nurse who has a knowledge of surgical cleanliness. She should disinfect the hair-covered skin about the vulva before examination is made. In cases where infection is suspected a vaginal douche should be given before examination. Bichloride of mercury solution is objectionable because of its astringent ef-

*Read before Section on Obstetrics and Gynaecology at the annual meet of the Michigan State Medical Society, at Port Huron, 1902.

fect. A solution of lysol is efficient and acts as a lubricant. The attending physician should be as thorough in the disinfection of his hands as though he were preparing for an abdominal section. Rubber gloves can be boiled and are therefore safe. If there be the slightest doubt about the complete removal of the secundines, or if from imperfect uterine contractions there is reason to suspect retained blood-clots, the fingers should be inserted into the uterine cavity and their removal effected.

If tear extend through the cervix uteri into the sub-peritoneal cellular tissue or into the peritoneal cavity it should be repaired as soon as possible. Tears in the vagina should be repaired, the mucous membrane edges being accurately coapted. Repair of the perineum should be such as to prevent the formation of pockets in which there may be accumulation and retention of discharges. If lacerations have occurred vaginal douches should be used to prevent such retention.

In one class of cases we find retained secundines. The micro-organisms enter and elaborate their toxins in the decomposing debris, but the uterus generally contracts after being emptied by the finger and disinfected. The evidences of infection quickly disappear. The curette is indefinite and dangerous and should be used only where the adherent placenta cannot be removed by the fingers. With it there is liability of wounding healthy tissue and no surety that all necrosing masses will be removed. The irritation caused by the presence of such necrosing tissue causes an inflammatory or infiltration zone beneath. The use of the curette may destroy this barrier, which would be dangerous unless we succeed in making the uterine cavity sterile. I am in the habit of thoroughly swabbing the uterine cavity

with a mixture of Churchill's tincture of iodine and carbolic acid in equal parts and loosely filling it with iodoform gauze. We should not be satisfied with simply lessening the infection and saving the life of our patient but our effort should be to prevent chronic pathological change.

Case 1. At 10 p. m. March 9, 1902, I saw in consultation Mrs. W., age 24. She had been delivered of her first child prematurely three days before. Her temperature was 101.5° and pulse 130. She was at once sent to Harper Hospital, where, under anaesthesia I removed with my finger some placenta and decomposing blood-clots. The uterus showed good tone, contracting as soon as emptied. Detroit Clinical Laboratory reported Staphylococci and Streptococci present. At 4 a. m. the next morning her temperature was 103.2° and pulse 140. (It is not uncommon to find chill and high temperature following within six hours the clearing of the uterus in such cases). The temperature was normal by evening of the same day, March 10, and remained normal. The gauze was removed at the end of thirty-six hours. No subsequent intra-uterine douches were needed.

Case 2. Mrs. D. entered Harper Hospital March 2, 1902. She had been confined about one week before. Elevation of temperature was discovered upon the second day after delivery. Upon the third day some small pieces of placenta were removed and the uterine cavity douched with 1-4000 bichloride solution. Within twelve hours her temperature was normal and remained so for twenty-four hours. It then began to rise and when she entered the hospital her temperature was 101° and pulse 120. Examination showed streptococci. Thorough intra-uterine douching was given at noon. Her temperature was

normal that evening and remained so for twenty-four hours, or until the evening of the 3rd. The discharge was profuse. The intra-uterine douche was repeated once a day until the 7th, when she had a severe chill, followed by a temperature of 104.4° . Douching was then ordered every eight hours because improvement followed each douche. Temperature became normal on the morning of the 9th, and did not again rise. She left the hospital on the 13th.

In another class of cases there may be found no retained secundines or blood-clots, the products of the germ passing quickly into the circulation. There is no evidence of infiltration in or about the uterus. The organ is large, flabby, and toneless. Examination shows the presence of the streptococcus. The discharges have no odor. They may be diminished, or profuse, thin, and gray. In the beginning, the temperature usually ranges from 99° to 102° . Many cases have no chills. Generally the patient feels well and does not understand why her attendants are so anxious about her. In a few days albumin may appear in the urine, ralles are heard over the posterior thorax, temperature and pulse-rate gradually rise and death results at about the end of the third week.

Case 3. Mrs. J., age 38, was brought to Harper Hospital Dec. 5, 1901. She had been confined about ten days before and had been curetted twice. Temperature 101.2° , pulse 102, respiration 28. A trace of albumin in urine. Fine moist ralles were detected in small areas over posterior surface of both lungs. The abdomen was flat. There was no tenderness or evidence of adhesions or infiltrations. Discharge not profuse, thin, gray, and odorless. Infection, streptococcus. I gave a bad prognosis and refused to operate. The

next day, Dec. 6, her temperature was 103° , pulse 118, respiration 32. Dec. 8, temperature 102.8° , pulse 124, respiration 28. Dec. 9, temperature 103.8° , pulse 136, respiration 50. Dec. 10, temperature 105.8° , pulse 160, respiration 70. Dec. 11, she died.

In another class of cases, owing either to greater power of resistance on the part of the patient or to a less virulent culture of the streptococci, or to both, or to a less spacious atrium, inflammatory barriers are for a time built around the infected area. In these cases if the surgeon is called early enough and gives proper aid, the life may be saved. Specific rules cannot be given for the conduct of these cases. General principles of surgery must govern. When, where and how to interfere or whether to interfere at all, must be determined by a careful study of the individual case, i. e., by the pathological conditions found. To bring the matter to your attention for discussion permit me to say that when, after thorough cleansing of the uterus, that organ still remains toneless, with no tendency to peri-uterine infiltrations, or adhesions, and there be observed progressive increase in gravity of symptoms, hysterectomy with removal of as much of the broad-ligament as possible and thorough drainage of the entire pelvis with gauze is the safest procedure. When, however, after such operation the patient recovers, the operator must in a certain number of cases feel uncertain as to whether the patient might not have recovered without removal of the uterus. This uncertainty has induced me to drain by free cul-de-sac incision, through which iodoform gauze is packed loosely into the pelvis well out along and behind the broad ligaments. If such conditions have existed for longer than ten days, hysterectomy will fail in

the majority of cases. This is true of all other forms of treatment.

Case 4. Mrs. B., age 34, has one child six years old. She had an abortion two years ago; no fever following either. Had always suffered during menstruation, otherwise healthy. She was delivered of a healthy child Dec. 25, 1901. Subsequent vaginal douches were not used. On the evening of the 29th she had what were called several fainting spells, pulse very weak. On the 30th her temperature was 104° . I saw her on the 31st, seven days after her confinement. Her temperature was 103.6° , pulse 120, uterus large and flabby, but its cavity was empty, no evidence of inflammatory deposit, lochia scanty, no tenderness in abdomen or pelvis, no albumin in urine. Examination of thorax negative, infection streptococcus. She was sent at once to Harper Hospital. Intra-uterine douche given and physiotherapy, and application of ice-bag ordered. The next morning her temperature was 104.6° , pulse 120 and weak. I at once removed the uterus and its appendages per vagina; gauze drainage. At midnight her temperature was 107° . She died at 2:10 a. m. the next morning.

I have had two recoveries in six cases in which hysterectomy was done after the end of the second week. I favor the abdominal operation in these cases because when the abdomen is opened if there is found a tendency to infiltration of one part drainage of that area may be instituted and the major operation avoided. If metastatic abscess be present all forms of treatment will fail in all cases.

When a tendency to local infiltration or deposit can be determined, drainage should be established by the most direct route; in some cases through the posterior cul-de-sac.

Case 5. Was called to see Mrs. F., October 31, 1901. She had aborted two weeks before. Her fever had attracted attention about the third day. She had been curetted, had intra-uterine douches and the usual systemic treatment. Her temperature was 101.6° , pulse 108. The uterus was pushed forward by a large abscess in the posterior cul-de-sac. I sent her to the hospital and established free vaginal drainage. She returned to her home well in two weeks. No bacteriological examination of the pus was made.

In other cases drainage should be established through incision above Poupart's ligament or above the iliac crest, getting down to the lymphatics of the broad-ligament without entering the peritoneal cavity. I have never yet seen a case in which the lymphatics of the left broad-ligament were not involved before those of the right. I have watched such cases until abscess formed and discharged spontaneously without apparent involvement of the lymphatics of the right. Drainage should be established before the formation of pus.

Case 6. Mrs. A., age 21. She had been married less than a year. Had menstruated only twice before marriage. Had been troubled with profuse leucorrhoea for two or three years. I saw her April 3, 1902. She had been confined two weeks before. Her attending physician said that no vaginal douching had been used until fever was discovered on the third day. An intra-uterine douche was given upon the fifth day. Bi-manual examination showed fundus of uterus drawn to the left, and left broad ligament thickened. She was sent to Harper Hospital that evening. Her temperature was 103.2° , pulse 136. Specific gravity of urine 1012, a trace of albumin but no casts. I made abdominal section next morning, April 4. I found

no adhesion of intestines and only slight of omentum. There was no wall built to protect the abdomen from infection yet the lymphatics of the left broad-ligament were filled with pus. The left tube and ovary were healthy but their connection with the uterus was severed by the presence of an abscess in the cornuum, through which I easily forced my finger into the uterine cavity. After protecting the abdominal contents by gauze pads I removed the left uterine appendage, made a free incision above the crest of the ilium, cleaned the part as thoroughly as possible of pus, and packed the infected areas, bringing the ends of part of it out over the crest of the ilium, and of the rest out through the uterus into the vagina. This dressing was left in place for four days. When I removed it I found there had been slight suppuration in the central abdominal wound, to which the fundus of the uterus was adherent. Twenty-four hours after the removal of the drainage I gave the first wash, of half strength peroxide of hydrogen, followed by normal saline solution. Water thrown into the uterus came out through both abdominal incisions. After this 1-4000 bichloride of mercury solution was used. Her condition gradually improved and when she left the hospital on April 18 her temperature was 99.4° and pulse 108. Report from her attending physician April 30 was that the suppuration had ceased and that her general improvement continued. Culture upon blood-serum of pus taken from broad ligament showed a profuse growth of staphylococcus pyogenes citreus. The culture upon agar showed only streptococci.

About three years ago I discarded anti-streptococcic serum as useless. I was induced to use it, however, in the following most instructive case.

Case 7. Mrs. C. was delivered of a child at full term May 27, 1900. Three days later her temperature was 102° . The uterine cavity was then thoroughly cleansed and disinfected by the attending physician. The symptoms of sepsis continued. She was sent to Harper Hospital June 1. Her temperature was then 102.2° , pulse 126. Uterine cavity was large, not much tenderness. Bacteriological report—streptococci numerous. I requested that Dr. Longyear see the case, which he did June 2. He advised swabbing the uterine cavity again with carbolic acid and iodine. This was done at 4 p. m. the same day, and the cavity packed loosely with iodoform gauze. At midnight her temperature was 97.2° , pulse 100. At 8 a. m. the following day the temperature was 100° , pulse 96. Ten c. c. of anti-streptococcus serum was administered at 10 a. m. and 10:30 p. m. The temperature at 4 p. m. same day was 100.6° , pulse 96. The temperature then gradually arose to 101.4° at 8 a. m. On the 5th, at 9:30 a. m., 10 c. c. were again given. At noon the temperature was 101.8° , pulse 108. On the 7th she complained of pain in the left ovarian region. Ice-cap applied. Considerable discharge from uterus. Eighth, pain in left leg so severe that morphine had to be given. Chilly sensations at 10:15 p. m., temperature 102.4° . Ten c. c. given at 5:30 p. m. on the 9th. At 4 a. m. on the 10th, temperature 104.4° , pulse 130. The 10 c. c. repeated at 10:30 a. m. on the 10th. At 4:45 the temperature was 103.8° . On the 11th the pain disappeared from the leg. On the 12th, coughing became troublesome with pain under the right shoulder, circumscribed pneumonia diagnosed. Eighteenth, cough troublesome, breathing labored, severe pain in left groin. On 19th examination of the

urine showed specific gravity 1018, trace of albumin and a few granular casts. Ten c. c. given at 4:30 p. m. Twentieth, severe pain in left leg, 10 c. c. given at 10:30 a. m. Twenty-third, again examined by Dr. Longyear, who called attention to the enlargement of the spleen. Much nausea and vomiting. Twenty-seventh, pain in leg less. Nausea better. Symptoms remained practically the same throughout the month of July. July 31st, temperature 102°, pulse 126. A hard mass had formed in left inguinal region, I made free incision close to crest of ilium, found the mesentery of lower half of descending colon, of sigmoid flexure and of rectum and subperitoneal tissue in internal iliac fossa infiltrated, forming a mound upon the top of which the colon was stretched so tense as to cause almost total obstruction. Drainage with iodoform gauze was established. The temperature was normal the next morning, pulse 92. Temperature remained normal for two days. It then began to rise and showed a zig-zag line with no regularity, ranging from normal to 103° until on August 18 the hypodermic administration of nuclein was begun 3ij daily until the 26th. The sputum was bloody from Aug. 12 to 25. Aug. 9, examination of blood showed 2,670,000 red and 30,000 white, principally poly-morphonuclear. August 28 I detected fluctuation below crest and outside of the ilium. Incision showed that pus bathed the iliac crest and extended beneath the lumbar fascia. The temperature went to normal but rose again upon the 31st to 102.2°, when other pus-pockets were found and drained. Sept. 6 she had been suffering much pain in abdomen for several days. I extended the first incision, entered abdomen, walled off general cavity with gauze and established more perfect drain-

age from mesentery of colon. She now gradually improved, the temperature becoming normal on Sept 8, not to rise again. During August and the first week in September there was almost continuous nausea, patient largely supported by enemata. By the mouth throughout nearly the entire case the principal article of nutrition was bovine. She left the hospital on Sept. 23. Her health gradually improved and she was apparently perfectly well six months later and has remained so.

DISCUSSION.

J. G. LYND, ANN ARBOR: I congratulate Dr. Metcalf on his excellent paper. The better way, of course, is to prevent sepsis rather than to treat it after it has occurred. A great many of those cases, with proper care, can be prevented; but it is no disgrace to any physician to have a case of puerperal septicemia. It may be that it has followed some carelessness on his part, but if careful it cannot have been his fault. There are so many other sources from which infection may occur that a physician should hardly blame himself for a case, unless he thinks that he has made some error in his technique and care of the case. It is getting so that when a physician has a case of puerperal septicemia he is blamed more or less by the laity. Many seem to think he has not taken proper care of the case, or it would not have occurred. It is not necessarily so, however, as we all well know. Hysterectomy in puerperal septicemia is certainly indicated in a certain class of cases, but where the infection is general, be it strepto-cocci infection, or whatever kind, I don't believe it can do any good; I believe it does harm; the shock of the operation certainly must lessen the vitality and the resistance of the patient, and it does not remove the source of the trouble.

There are certain cases where there is something left in the uterus and infection has taken place, when cleaning out the uterus thoroughly is sufficient to stop the process; but where the infection has become general, I do not believe that curetting is sufficient, that hysterectomy or any other operation will do much good. Hysterectomy is indicated in a

class of cases where the infection is confined to the pelvic organs, to the uterus, to the cellular tissue above the uterus, or some suppuration in the tubes or ovary, possibly. Dr. Metcalf speaks of infection invariably taking place on the left side. I can recall several cases where the right side became infected and apparently there was no infection of the left side; abscesses formed in the right side, so that I think it may take place in either side. Perhaps more likely in one side than the other; I am not sure of that, however. The use of strepto-coccic serum in this disease is largely problematical as yet, and I have seen some very desperate cases recover without the use of those agents. The resistance and vitality of the patient is an important factor in overcoming those infections, and many will ultimately recover. Of course, the majority, where they are so bad, do not recover; they die; but the great secret is to prevent the infection rather than to try to control it after once it has occurred.

W. F. METCALF, DETROIT: I have little further to say. The doctor speaks of the limited field for hysterectomy; I think that is very proper. No one should do it except after much experience and mature reflection upon the case and upon many cases. He believes positively that there is no general infection that the resistance of the system cannot overcome; and also, in connection with this fact, that the uterine tissues, sinuses, are filled with pus, and that thorough drainage cannot be established without sacrificing the organ. That would bring it to a very limited use. I did not wish to convey the idea that I thought the infection showed in the left broad ligament exclusively, and not in the right. I mention this because those serious cases that have come to my attention have just happened to show themselves in the left.

OBSERVATIONS UPON THE TECHNIC OF ABDOMINAL SURGERY.*

H. O. WALKER,
Detroit.

Before entering upon our subject proper, it will not be out of place to say a few words upon disinfection, for upon our

*Paper read before the Jackson County Medical Society, Jan. 6, 1903.

method and character of disinfection rests our results in surgery, and particularly so in abdominal surgery, and it is safe to say that about 40 per cent. of all surgery is done to-day in the abdominal cavity. (Possibly done too often). This estimate is made from looking over a number of large hospital records. I find in looking over my work of last year, which is general in character, 437 operations were done in all, 197 of which were abdominal in character, including operations for appendicitis, vaginal and abdominal hysterectomies, upon the gall-bladder and ducts, liver, stomach, intestines, kidneys, pancreas, vesical bladder, tubes and ovaries and hernias, which is rather a greater per cent. than mentioned. The operator in surgery must not only be the architect, but the builder of his work. A finished structure needs a master mind, a foundation not of sand, but of rock-like firmness, proper material and competent assistance. While our foundations are not always of the best, yet preparation, execution and after-care restores many a diseased body to health. Therefore proper disinfection is an important factor in our construction of a successful operation. Since Pasteur taught us that the great enemies of surgical work were micro-organisms, then began the great reform in surgical technic. Lister's first efforts were cumbersome and impractical; he tried to do too much; the wholesale destruction of microbes was dangerous, yet to him must be given the credit of giving to the world the era of Antiseptic Surgery. Evolution produced the so called aseptic surgeon and further evinced simplicity of surgical details. Simplicity is not acquired in a day, but means a long period of experience. The combination of an acid fat with an alkali, namely soap, is an in-

vention that has proved of incalculable value in operative technic. Its use for ten minutes with hot water upon the hands of operator, assistants and site of operation is the great preliminary to disinfection.

Then comes the choice of an antiseptic (for let it be remembered that antiseptics and asepsis must go hand in hand to combat sepsis), which, as a rule, is left to the experience of the operator, and this is largely one of convenience. For what may be agreeable to the hands of one operator may be just the opposite to another. This is likewise the same of patients. Therefore the question of hand disinfection is a matter of personal equation. It must be remembered, however, that there is no method of absolute sterilization of the hands, as has been proven by frequent laboratory experiments. Fortunately the micro-organisms of the deep layers of the skin are few and not virulent. It is the bacteria that cling to the skin of the hands that are deadly and should be removed by mechanical and chemical disinfection; therein lies its simplicity, which, however, takes time. My method after many years of experience with different chemicals, consists of the washing as mentioned above, followed by an alcohol wash of a minute or more, finally an immersion in a bichloride solution of 1 to 1000, when the hands must be covered with an aseptic towel until the operation is commenced. Constant vigilance is the price of good surgery.

RUBBER GLOVES.

The wearing of rubber gloves, although they interfere somewhat with the sense of touch, possess certain advantages over the bare hands, especially where there has been a previous exposure to virulent sepsis; it avoids for the next

patient the danger of possible infection, as no process of disinfection will remove streptococci from the hands, at least for a few days. Hence the necessity of wearing gloves in all infected cases operated upon to guard against future infection.

Recent experiments by Heile demonstrated that the sweating beneath rubber gloves increase the bacteria on the surface of the skin, and in a prolonged operation with a possible injury to the gloves, gives greater opportunity for infection. Disinfection of the hands is just as important with gloves as without. While thin gloves are more convenient and less expensive, yet a thicker glove is safer and more economical in the end. A set of rubber gloves should be a part of every surgeon's armamentarium, whether he uses them in every case or not. Simple hand disinfection does not hold good throughout an operation, for redisinfection should be resorted to from time to time, to guard against infection by possible contact. Sterilization of sponge and dressing material is best provided for by moist heat followed by dry heat evaporation. All instruments should be boiled except knives and needles, for prolonged boiling destroys the temper of the edges. To prevent this they can be washed before and after using with alcohol, and when not used during the operation can be placed in a dish of alcohol. Sutures and ligatures of all kinds should be sterilized chemically, as moist heat destroys, while dry heat is unreliable. Ochsner's method, or a modification of it, is used largely by many of the western surgeons.

OCHSNER'S METHOD.

"Catgut is prepared by immersing in sulphuric ether for one month, then for one month in strong, commercial alcohol,

in which one grain of corrosive sublimate to the ounce has been dissolved, the solution being renewed once during this time. It is then preserved indefinitely in a solution of one part of iodoform, five parts of ether and fourteen parts of strong, commercial alcohol. It should never be handled by any one except the surgeon and the chief assistant.

The jar containing the ether in which the catgut is kept for one month should be filled only about one-half with the loose coils of ligature and then it should be filled with ether; it should be closed air tight and should be picked up every day or two and shaken in an inverted position in order to wash off any substance which may accumulate upon the surface of the coils. At the end of two weeks the ether should be removed and fresh ether substituted.

The same precautions should be taken with the solution of corrosive sublimate in alcohol. It is especially important not to wind the catgut tightly before placing it in these solutions, because this may prevent the solutions from penetrating all parts of the material.

One precaution is necessary in the use of catgut which has been prepared in this manner; it must not be placed in water before it is used at the time of the operation."

It will be seen by this brief introduction that disinfection is the great aim of a conscientious surgeon, and while it seems simple, it is one of the most difficult things to accomplish. There must be harmony and system all along the line. Everybody must be clean and everybody must keep clean until the last finishing touches of the operation are made. There must be no weak links in the chain of work.

It goes without saying that a familiarity with abdominal topography is essential to the invasion of its cavity, yet the most important event is the preparation for the invasion, which first consists of a thorough emptying of the alimentary canal, freeing it of its septic contents, namely, excrement, gas and bacteria, and should be done two days before operation except in extreme emergencies. Castor oil, the old reliable cathartic, in quantities of from two to four ounces, produces no gas or colic. Operators, I observe, are returning to its use in preference to salines. An empty abdomen provides for better inspection and against intestinal crowding. Feeding from this time on to the time of the operation should be of the liquid sterilized type with plenty of water. Outside of a hot bath the night before, preparation of the site of operation is not necessary until just before commencing the operation, which consists of the ten minutes soap and hot water procedure heretofore mentioned, and a clean shave, followed by the alcohol bath and the bichloride solution finish. Previous soap poultices and bichloride dressings are frequently of more harm than good. With the provision of plenty of dressings, hand disinfection of self and assistants, as previously mentioned, with or without gloves, the patient having been anesthetized, the operator is ready to begin his work. Attention is the word of command of all concerned, and must be kept up with the utmost regard until the finish. The line of incision will depend upon the locality to be operated upon and should be along the line of direction of the muscular fibres, rather than across, cutting only through integument and fasciae while separating the muscular fibres with handle of scalpel, forceps and fingers.

This method of incision provides against paralysis from nerve trunk division as well as a better approximation of abdominal wound closure, lessening the possibility of post operative hernias.

In order to illustrate that which I wish to present on abdominal technic, I can do it better by presentation of a report of a case, than by a general discussion of the subject.

INTESTINAL ANASTOMOSIS WITH THE MCGRAW LIGATURE.

Report of a case of intestinal anastomosis with the McGraw Ligature for chronic intestinal obstruction, due to a probable malignant growth, history as follows: Mr. G. Mc., aged 40 years, father living, aged 76. Mother died suddenly at the age of 56, from what was called at the time, inflammation of the bowels. Has three sisters and two brothers living; two sisters died, one in childbirth and one of cerebrospinal meningitis. birth and one of cerebro spinal meningitis.

No evidence of tubercular or malignant trouble in the family. The patient's general health was excellent up to the time of his present illness, manifest for the first time in September, 1901, by pain in the right iliac region and constipation and passed in a few days with use of a cathartic. Shortly after this he received an injury just below right floating ribs, from the handle bar of a bicycle. The soreness lasted about six weeks. Next manifestation of pain was in February, 1902. A cathartic as before was given, and he was relieved in a few days, but from this time on until I saw him, the constipation was a prominent symptom, for relief of which he resorted to enemas and cathartics. Enemata, he soon ascer-

tained, were of no benefit, but a free cathartic gave him relief. The attacks became more frequent and distressing. He found that after taking solid food, in the course of about ten hours, the symptoms came on, so that his diet was restricted to liquids, and while taking them he was fairly comfortable, but as soon as he resorted to solid food the attack recurred. As the cathartic began its effect he could notice passage of foecal matter and gas in the right iliac region, when he would become fairly comfortable for a while.

During all this time he attended to his avocation, that of an insurance solicitor, and was only confined to his bed on account of the trouble, for a day or two, at four different times. Latterly he had attacks of vomiting; an anodyne was resorted to only on two occasions. The pain was extremely acute only at times, its usual character was more on the order of distress from gas accumulation.

No positive diagnosis had been given him by physicians, except that of intestinal indigestion or chronic appendicitis. When I first saw him, September 21, 1902, his condition was that of worry with almost constant uneasiness in right iliac region, deficient nutrition, loss of weight about 25 pounds since February, 1902. Sallow complexion, temperature 98.6° and pulse 80. Skin moist, chest examination normal, abdominal inspection, slightly tympanitic, by palpation a distinct tumor about the size of a medium orange, smooth, moveable, and sensitive on pressure. As far as I could make out the rest of the organs were normal. Diagnosis, chronic intestinal obstruction at or near the ileocecal junction due to a growth, either tubercular or malignant in character. Advised immediate operation,

to which he consented by going to Harper Hospital, where I did the operation September 23, 1902.

Test breakfast was given and stomach contents about normal. Urinary analysis gave slight trace of albumin. Preparation as follows: Saline cathartic given, followed by enema in the morning, together

to the anterior lamina of the sheath of the rectus abdominalis. After all bleeding points were stopped, it was divided, and the fibres of the muscle split and held apart with retractors, when the posterior lamina of the sheath were seized and lifted with two pairs of forceps and carefully divided between them, which of

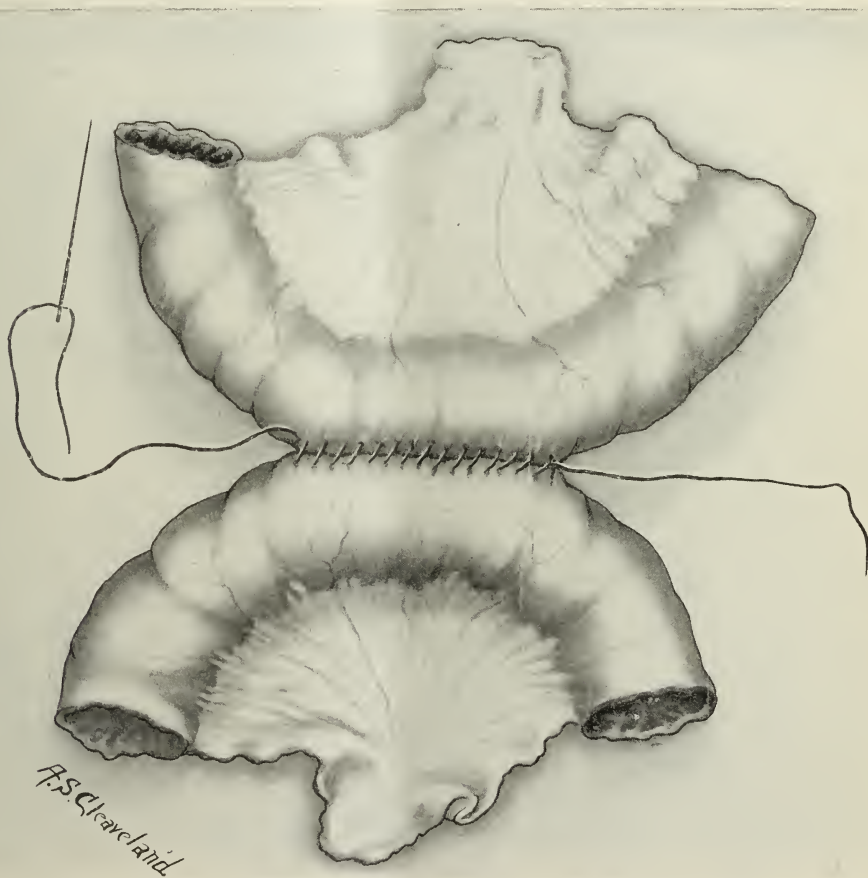


Fig. 1—Approximation of serosa with continuous silk suture.

with hot bath night previous, and no food to be given by mouth, only nutrient enemas every four hours. After the anesthetic (chloroform) was given, the site of operation was prepared, as already stated before. The incision was made through the outer border of right rectus muscle four inches in length, cutting through integument, fat and fasciae down

course included the parietal layer of the peritoneum. This careful division is important, as it is an easy matter to cut an intestine, and should be done similarly at whatever point entrance is made into the abdominal cavity. The next step is the siezure, with hemostatic forceps, of the peritoneo-laminal flaps on either side at one or more points, to provide against

hunting for them when the time comes for the closing of the wound. The omentum now pushed up, there being no adhesions, indicating that no previous inflammation had occurred. The tumor was readily drawn up into the wound, showing the white band on the cecum, within which was the growth, almost

inches from its junction with the caecum, and another point on the ascending colon about two inches below the hepatic flexure, when the serosa were easily approximated with a silk worm suture as is observed in these illustrations showing the several steps of the operation.

Fig. 1 shows the approximation of the

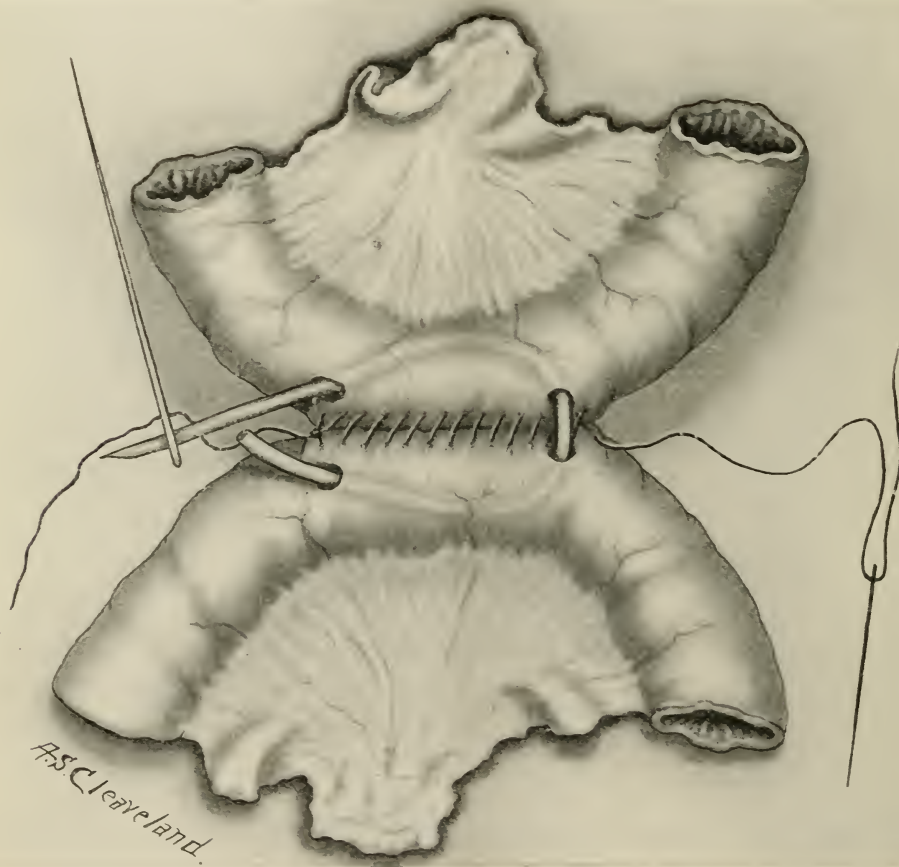


Fig. 2—Elastic ligature introduced.

closing its lumen, down close to the ilio-cecal junction, and involving the appendix vermiformis. Several secondary nodules in the meso-colon were manifest, making it useless to do a resection. I therefore concluded, for the future comfort of the patient, to an anastomosis with the McGraw elastic ligature, by first selecting a point in the ilium about eight

serosa by continuous silk suture. Fig. 2 shows the elastic ligature introduced. Fig. 3 shows one tie of the elastic ligature, with strong silk ligature underneath, ready to fasten the elastic ligature when it is drawn taut. As a matter of safety, before cutting off the ligatures, it is well to make another tie of each ligature. Fig. 4 shows the ligature tied; while Fig. 5

shows the operation complete with a continuous suture of the serosa entirely covering the knot. It is my custom in introducing the needle to take up full two and a half inches in the bite of both the stomach and intestines, giving a large astomotic opening.

During the approximation the intes-

made by first approximating the peritoneo-laminal flaps with double threaded, small, round curved needle of No. 1 catgut, continuously, but not tightly. The same course is pursued in uniting the muscle fibres, the anterior lamina sheath, finally closing the integument with a continuous silk worm suture, loosely, just

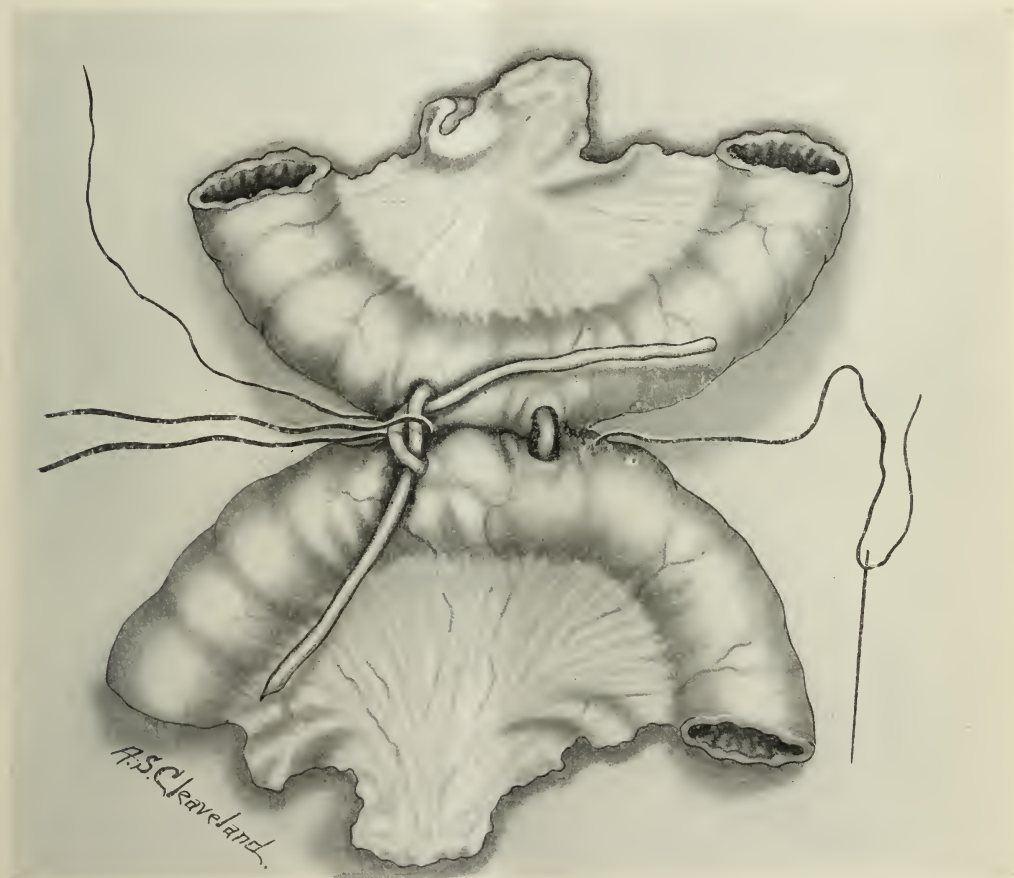


Fig. 3—One tie of the elastic ligature with a strong silk ligature underneath ready to fasten the elastic ligature where it is drawn taut.

tines were covered with hot aseptic towels, and especially so around the points of approximation to guard against any possible escape of feces or gas during the introduction of the ligature, which, however, there is very little liability of doing if care is exercised in pulling the ligature through the intestinal wall by keeping it taut. The closure is then

sufficient to bring it together without pressure. Where the abdominal wound is as long as in this case I first, before doing the layer approximation, introduce three or more through and through silk worm gut sutures, which are tied loosely to act as guys during union and prevent separation in the event of too rapid absorption of the catgut.

The last act was the application of an ample amount of sterilized dressings held in place above by a strip of adhesive plaster and the ordinary abdominal bandage over all. My reasons for laying stress upon not tying sutures too tight is apparent when I say that more stitch abscesses arise from this cause than any

and assistant should be frequently washed off in the bichloride solution, and then rinsed off in sterile water. Only once did the temperature rise in our patient to 100° . He was able to leave the hospital on the fourteenth day, but wishing to give the benefit of the X-ray treatment, he remain a week longer. Then they were given

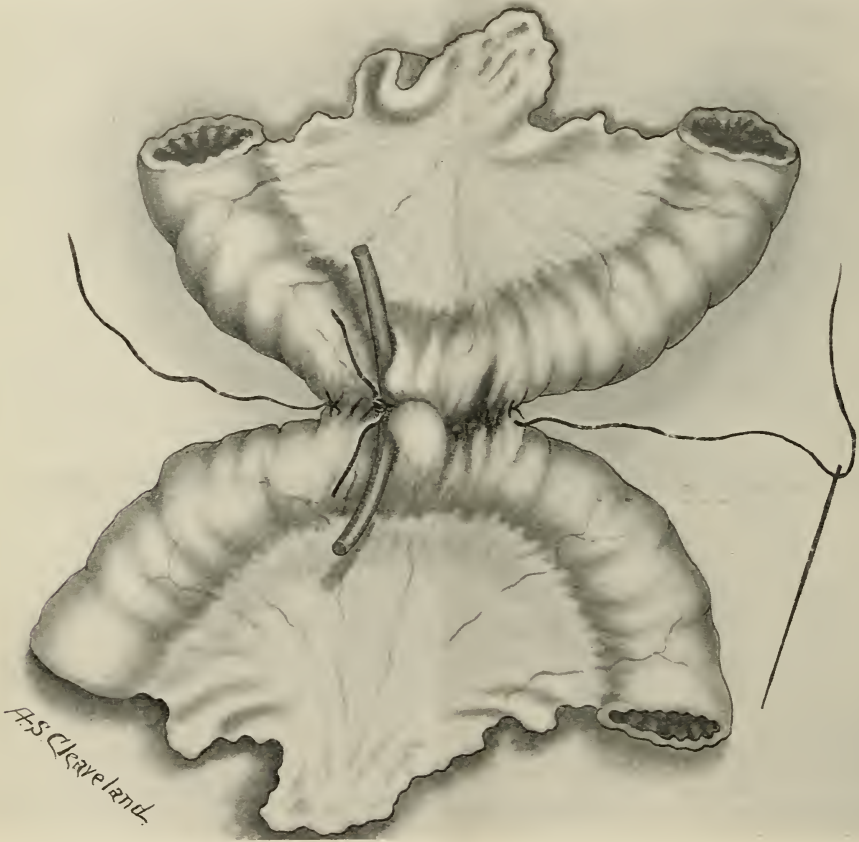


Fig. 4—Ligature tied.

other. Pressure necrosis does not itself cause an abscess, but it does prevent proper freedom of circulation, the principal means of repair, giving the best of opportunity for microbic fructification. A tight suture is not only painful, but causes an ugly looking scar. I forgot to mention one important fact, that during an operation, the hands of both operator

daily for ten weeks, and now every day. Since the operation he has none of the old distress from gas accumulation, nor has taken any cathartic. For the last two weeks he has had pain at the point of tumor, which on examination January 4, 1905, I fancy is larger than when I first examined him, and more fixed. Clinically the growth is probably carcino-

matous, although at the time of operation I did not remove any of it for examination microscopically. The anastomosis is evidently satisfactory in its results.

The details of case just reported gives the technic of a simple abdominal section without sepsis. Attacks through the abdomen into the "pelvic box" are aided by

sepsis in the abdominal cavity. Irrigation is an unnecessary quantity in any operation, and especially in abdominal work, it only adds to the diffusion of sepsis when it exists. Every patient at the close of an abdominal section should receive an enema of a quart or two of a normal salt solution; it is a restorer of devitaliza-



Fig. 5—Operation complete, continuous suture entirely covering knot.

putting the patient in the Trendelenberg position, particularly so when septic conditions exist, then it is, that we want to coffer dam the entire area of sepsis with soft abdominal towels or gauze to prevent its contact with healthy structure.

This coffer dam procedure is equally appropriate in appendicular abscesses, abscess of gall-bladder or any other ab-

tion and provides against thirst. Transfusions of the same solution are often valuable during a prolonged operation.

In closing the abdominal incision after removal of a septic area, drainage is necessary, either by means of a glass or rubber tube or gauze covered with gutta percha tissue—the latter is my favorite method; it is self draining and can be

withdrawn without injury to the tissues.

Unnecessary traumatism either by handling with instruments, rough dressings or too strong antiseptics, is to be avoided, for young cells need encouragement in the process of repair.

UREMIA IN THE PROCESS OF CHILDBEARING.*

EARL BIGHAM,
Grand Rapids.

The term Uremia or Toxaemia, I understand to mean that condition of the system resulting from accumulation and retention in the blood of certain toxic products or excrementitious material which should normally be eliminated by the kidneys. Eclampsia occurs in from 300 to 500 pregnancies. It is a frequent result of uraemic phenomena occurring in the childbearing process. Statistics show this to be an extremely dangerous condition, as one-half of the children and one-third of the mothers are lost. All of the accidents creditable to the parturient state are increased in liability, viz: septic infection, post partum hemorrhage, thrombotic affections, etc., in this vicious blood state.

The urinary disturbance is probably due to two different causes: first, a pre-existing renal disease, or an acute condition arising in the excretory functions of the kidney during gestation; the latter condition is no doubt the more common. Dr. Charles Jewett of Brooklyn says "that the pathological anatomy of Eclampsia may be considered fairly well established, but the eti-

ology is absolutely unsettled. One class of recent authorities ascribe the poison to maternal sources, and another to the foetus. Of the more recent theories, one refers the source of the poison to the placenta, another to insufficiency of the thyroid gland. One assumes that it is of hepatic origin; still another that the disease is the result of an infection. Dienst in an elaborate article in the Archives of Gynecology defends the foetal origin of the poison. He gives three reasons for his belief; first, that the foetus sometimes has eclampsia without eclamptic attacks on the part of the mother; second, that the eclamptic seizures occur most frequently in the last weeks of pregnancy at a time when the foetus is in an advanced state of growth; and third, that the eclamptic trouble almost always ceases on the death of the child in utero." Dr. Jewett further says that "the best working hypothesis that appeals to him is that the cause of the eclampsia is an auto-intoxication of as yet, undetermined origin. The toxaemia may be regarded as the cause both of the convulsions and the renal lesions which complicates the eclamptic state; nevertheless, while the toxaemia is the primary condition he does not think it is the most essential." Dienst says, "there is doubtless some toxaemia in every gravid patient, but this gives rise to no trouble so long as elimination is active." The main organ of elimination is the kidney, and when this fails to do its work, then the trouble begins. The renal insufficiency therefore, is the main factor in the production of the eclamptic condition. This condition, therefore, includes the albuminurias of the pregnant state which is found in a great proportion of all cases of pregnancy. It is not to be understood by a renal insufficiency that therefore there must exist a

*Read before the Section on Obstetrics and Gynaecology at the annual meeting of the Michigan State Medical Society, Port Huron, 1902.

renal lesion, as the kidney may be anatomically normal and the fault may lie in function only, as Dienst and Jewett have observed that a kidney which is not sound may functionate well under stimulation. Failure of the sound kidney to secrete properly may be due to degeneration of the heart muscle. We know that the presence of albumin does not imply a kidney lesion, nor its absence a certain proof of the absence of kidney disease. Dr. Stewart, of Chicago, says: "that it rarely happens, however, that the urine is perfectly normal in all respects chemically, physically and microscopically, where there exists any lesion of the kidney demonstrable at the autopsy. Many authentic cases are recorded where the urine was found free from albumin and casts a few hours before an attack of eclampsia, but almost invariably both were found afterward. This fact has led some authors to assert that the albuminuria and casts were the result instead of the cause of the eclampsia. That either is not the case seems probable since kidney disturbance seldom or never follows the convulsions of epilepsy, hysteria or strychnine poisoning, however violent the siezures may be."

Some authorities still believe that the toxæmia acts to produce convulsions by inducing spasm of the arterioles and consequent anaemia of the brain. Consistent with this fact is the fact that the best antieclamptics are drugs and other measures which relax the arterioles and lessen the blood pressure. Dr. Barton Cook Hirst says: "I feel that the kidneys of a pregnant woman are under a strain on account of the increased work thrown not only upon them, but upon all the excrementory organs of the body; but, as they are the chief excretory organs they feel the strain most.

What the poisonous product is which affects the organism is not yet made out. Uraemia is a term at present used to cover our lack of knowledge of the subject. A recent investigation by two Italians shows the presence in increased quantities, three or four times as much as normal, of urobilin in the urine of pregnant women, an evidence of increased work thrown upon both liver and kidneys. It may be this excrementory matter which is stored up in the kidneys during pregnancy is the cause of the toxæmia which we often see at that time."

Albuminuria occurs in about five per cent. of pregnant women. In the larger majority of cases there is no significant kidney lesion and the albumin is due to a disturbed blood pressure. It is a well known fact that primiparae are three times as liable to eclamptic attacks as multiparae. Dr. Lewis, of Chicago, in an elaborate article in the *American Journal of Obstetrics* says as follows: "Why, in the normal process of childbearing, should we find so often the manifestations of a disturbance of the excretory functions, and what are the causes of the phenomena which we call uraemia? Most authorities are agreed that it is a uraemia, using the term in the sense of an autoinfection from retention in the blood, of matter which would normally be excreted, or an overproduction of toxins beyond the powers of elimination. What this poison is and what causes it to appear in the blood of the pregnant woman have been points of controversy since uraemia was recognized as a pathological entity. As to the first, it has been answered that the poison is urea, that it is carbonate of ammonium, that it is kreatin and kreatinin, that it is a product of metabolism of the foetus, and finally that it is an infective ptomaine. As

to the second, it has been answered that the abdominal pressure causes a passive congestion of the kidneys; that the pressure on the renal arteries causes an anemia of the kidneys; that the pressure on the ureters by the presenting part causes a urinary stasis; that the irritation of the uterus on the pelvic nerves causes a reflex spasm of the renal vessels and a consequent anemic condition; that the hydremia of pregnancy causes a diminished nutrition of the kidneys and therefore a failure of their excretory powers; that the same cause acts on the liver so as to interfere with the abstraction of urea and other waste products from the blood."

It was Halbertsma's idea that all uremic symptoms were ascribable to mechanical stasis of the urine by pressure of the presenting part (usually the vertex) on the ureters as they entered the pelvis, but a great deal of the trouble must be caused by the increased abdominal pressure as well, for the conditions which produce albuminuria and eclampsia are increased in hydramnios and plural pregnancies. Statistics show that in eclamptic cases there are about five times the usual number of twins. The increased abdominal pressure seems to be an important factor, for the reason that the albuminuric condition is the greater in the latter months of pregnancy when the uterus is the larger, and consequently makes greater pressure upon the abdominal and thoracic viscera. This increase of pressure causes a general venous stasis, as shown by the hypertrophy of the left side of the heart, the varicose condition of the legs and the general oedema of the lower extremities. Dr. Lewis says: "That those cases where albuminuria is observed in the early months of pregnancy can be ex-

plained by a catarrhal condition of the urinary passages or a pre-existing renal disorder." He says: "I may cite the researches of Meyer, who found that the ligature of the renal veins always produced albuminuria, and, further, that ligature of the renal veins of one side produced albumin from the ureters of that side only." The theory of Halbertsma is combated by the fact that convulsion and other uremic manifestations are observed when other presentations than vertex occurs. In Halbertsma's cases he reports one case where there was complete suppression for eight hours, no doubt caused by the firmly engaged head pressing on the uterus, and yet he says there was no eclampsia, and the patient made a complete recovery. Hughes and Carter in an elaborate paper based on experimental study of uremia in general express themselves as follows: "It is probable that the origin of the poison is to be traced to the character of the food, and that its production takes place somewhere in the digestive system; for the larger amount of poison is found in man, with his meat ingestion and his complex and easily deranged digestion, next in dogs, with their semi-carnivorous diet, and least in the horse, a pure herbivora. Clinically it has been well established that cases of Bright's disease improve when meats and kindred substances have been removed from the food and do best of all upon the simplest of diets, milk. Experimentally it has been shown that the urine of animals is rendered less toxic by a milk diet. These facts would all point in one direction—they refer us to the digestive tract for the origin of the poison. Their conclusions are as follows:

1st. It is probable that in addition to the pathogenic poison of uremia there are,

under certain conditions, other secondary ones active in its production.

2nd. The poison producing uremia will also produce nephritis and a fatty degeneration of the retina. (This was proven by injections into animals of uremic blood serum or dropsical effusion.) The poison is probably some albuminous substance.

3rd. It is possible to have uremia without any previously existing lesion of the kidneys. Jewett says: "If you ask why this particular intoxication is more common in gravid than in nongravid women, no satisfactory answer can at present be given. It is evident that the pregnancy has in some way a causative influence and the fact is emphasized by the speedy subsidence of the symptoms which almost invariably follow the evacuation of the uterus. It is significant that the toxemia, in the absence of chronic kidney changes, is an occurrence of the latter months of gestation. This has led to the suspicion that faults of foetal as well as maternal metabolism may be concerned in the etiology. Albumin, the detection or absence of which, as a prognostic sign, is of special interest. Authorities agree that it exists before the first convulsion in from 84 per cent. to 90 per cent. of patients who become eclamptic and it is universally conceded that it is aluminous after one or two convulsions. Careful and frequent examinations of the urine from the earlier months will aid greatly in preventing these dire conditions by instituting proper treatment for their prevention. Herman alludes to the fact, that the albumin in acute nephritis is mainly paraglobulin, while in chronic nephritis it is chiefly serum albumin. The distinction has little importance for our purpose. It may have some relation to the treatment, since in the chronic the pregnancy can be safely trust-

ed to go to term or at least to the viable period. Yet the history and the microscopic findings would afford a better means of differentiating between acute and chronic lesions than the character of the urine." (Jewett)

As regards to the part that urea may play in the production of eclampsia, most physicians feel secure when the elimination is near the normal—four or five grams a day. Special watchfulness is needed when it falls much below the amount. Davis found his patients were benefited by giving a stimulating diuretic when the percentage of urea did not exceed 1.5 per cent. Too much confidence should not be placed upon urea alone; that alone is not an infallible guide. We must ever remember that the urea is normally diminished in pregnancy, and is subject to variable changes depending upon dietetic and other causes. "Notable diminution of urea should always excite suspicion, and a marked falling off is usually of grave import. The weight to be attached to it must be determined in part by other clinical signs" (Jewett.) Dr. De Lee says: "I have not been able to differentiate uremia from toxemia in pregnancy, and am more than ever convinced that some disease of the kidney old or acute is at the bottom of the convulsions." He further says that without going into the causation we may say that in all probability eclampsia is due to a poisoning of the blood from an unknown source or sources, which poisons, owing to some impairment of the liver as an elaborator of poisons, to inefficiency of the kidneys as eliminators of poisons, accumulate in the blood, and, acting upon an already hyper excitable nervous system, cause convulsions, by influencing the vaso motor centers of the brain. Convulsions, if the pons and medulla are

involved, coma when the cerebrum is affected. Several writers have noticed a cessation of the uremic manifestations following the death of the foetus. I have had two cases of this character in my own practice, and one of these cases was a patient eight months pregnant who presented marked uremic or toxic symptoms, but upon death of the foetus caused by a blow upon the abdomen by the husband in a drunken frenzy, all foetal movements ceased, all uremic symptoms subsided and I delivered her of a dead foetus some two weeks afterward without any trouble, and she made a fair convalescence.

In the Ninth Congress of German Gynecologists, at Giessen, May 29 to 31, 1901, eclampsia constituted one of the subjects for an exhaustive general discussion which was introduced by Fehling and Ryder. In his report of the pathogenesis, Fehling announced the following theses: "Puerperal eclampsia is a distinct and characteristic process which occurs only in the period of gestation. There is no special placenta, no special form of renal or hepatic disease in eclampsia; it is not necessarily connected with urethral dilatation, but albuminuria is almost always present. There is no definite pathological anatomy of eclampsia. That it is contagious has not been shown, and there is no proof of Bouchard's claims that it is caused by an increased toxicity of the plasma of the blood associated with diminished or absent toxicity of the urine. Eclampsia is neither an hepatotoxaemia nor a leukomainemia. The lesions of eclampsia are associated with the presence in the blood of some coagulative substance. Finally eclampsia is an intoxication of foetal origin." Schmorl's report on pathological findings in 73 cases invalidates Fehling's claim as to no definite patho-

logical anatomy. He found that the kidneys, without exception, were the seat of albuminous and fatty degenerative changes, with more or less necrosis. The liver also contained albuminous changes in the cells and hemorrhagic and anaemic necrosis were present. The lungs too showed thromboses and hemorrhages. The most constant changes in the brain were small softenings and hemorrhages, especially in the cortex, but also in the brain stem and in the lenticular nucleus. Also pathological changes were found in the heart but not as common as in other organs.

As regards placental cell embolism he does not think they are distinctive, because they also occur in non-eclamptic cases. He does not think the placental cells have an ability to liberate coagulative substances. From the nature of the lesions he would assume that a peculiar substance enters the blood and leads to multiple thromboses. Whether this substance comes from the foetus cannot be determined at this time. Albert believes in the microbic intoxication as a theory for eclampsia, and indeed when we come to view the part which bacteria and bacterial products play in the production of thromboses we cannot definitely exclude a microbic etiology. Kundrat May and Herzfeld think that the abnormal divisions of the abdominal aorta cause such displacement of the ureters as to render them subject to compression.

At this convention the physical and chemical conditions of the blood received considerable discussion. Fütth and Kronig found that the maternal and fetal blood had the same osmotic tension and specific gravity, showing that if there were toxins in the maternal blood they did not increase its tension or gravity. Dienst found an increase of fibrin in the blood of both foe-

tus and mother, and concluded that a certain amount of poison was produced by the foetus, passed into the maternal blood, and in case elimination was interfered with, accumulated in fatal quantities.

It must not be forgotten that the failure of the urinary secretion may take place quickly, and the bladder being found full does not prove that the kidney is still excreting urine. In a case which I saw a few months since in consultation with another physician, the patient had had four convulsions before I arrived. I asked the doctor if he had examined the urine and he said, "No." He introduced the catheter and drew off at least a pint of dark smoky looking urine which almost solidified by heat. She went into another convulsion from which she never came out and died about two and a half hours after the first convulsion. Repeated trials with the catheter failed to draw any urine. De Lee says, "The latest writers ascribe most of the cases of eclampsia to toxæmia, relegating the nephritis to second place. In the vast majority of eclamptics there are distinct evidences of nephritis, or at least of the kidney of pregnancy, either in the urinary findings or at the post mortem. The writer cannot but think that the kidney of pregnancy is a low grade of inflammation. The toxæmia may cause the nephritis, and the nephritis may cause the toxæmia, by impairing the eliminatory power of the kidneys. Thus a kidney that under ordinary circumstances did satisfactory work, may under the added strain of pregnancy give out completely." Lusk rejects the uremic origin of eclampsia and thinks it is due to some reflex action or irritation. He thinks there occur many cases of albuminuria. Lantos of Budapest, believed this condition of albuminuria to be due to reflex irritation of renal and

sympathetic nerves. Several authors have thought that certain changes in the placenta, such as infarcts, were a possible cause of trouble for the reason that most albuminuric cases showed white infarcts. Dr. Edward P. Davis, of Philadelphia, says: "I do not consider uræmia as an important element in the causation of eclampsia. Eclampsia and some other disorders of pregnancy result from a toxæmic condition caused by poisons of an alkaloidal nature formed in the liver, intestines, lungs and skin. Urea itself is a non-poisonous substance which represents completed metabolism. If urea is formed in abundance, the patient does well, but if instead of urea poisonous compounds are formed, disturbances of the nervous system, and often eclampsia result. These statements are based upon extensive clinical observation and upon the careful study of the literature and experiments upon this topic. Practically it is important to know that the management of cases based upon this view of the subject is very largely successful; as the urine is especially available for our study, we should ascertain its quantity, specific gravity, percentage of solids, percentage of urea and the presence or absence of sediment and microscopic debris. Serum albumin is not of especial pathological import. In the presentation of eclampsia, that treatment is most successful which removes irritating substances from the patient's diet, which stimulates the functions of the liver, intestines and kidneys most efficiently. In the treatment of eclampsia that method is best which causes the most rapid and thorough elimination. Better results are obtained in this way than by the immediate emptying of the uterus. In my experience from the view just given, eclampsia is as presentable as puerperal septic infection."

Jewett divides the treatment of eclampsia under three heads: "First, measures to limit the effects of the poison; second, measures to provoke elimination of the poison; third, measures directed to the arrest of its production. With regard to measures for the control of the nervous manifestations and the control of the nervous system such antieclampsics as chloroform, chloral, veratrim-viride, nitroglycerine and morphine are used. Chloroform for its quick effects is practically indispensable, especially if operative interference is demanded. On the other hand, it may be very dangerous. Prolonged chloroform narcosis is condemned by every authority. Chloral is less harmful, and may be given in considerable doses, as high as 120 grains or more a day. It is best given by bowel. As regards nitroglycerine, I have used it in a few cases, but I have failed to see any benefit derived therefrom. Veratrim-viride I regard with high favor. I have used it both by mouth and hypodermically with good results. Tyson says that a convulsion is practically impossible if the pulse is kept below 60. Morphine I have used in a few cases, but was disappointed as to its value. I believe it deepens the coma. In one case where only $1/3$ of a grain was given artificial respiration was restored to save the patient's life. It ought not to be given where the coma is intense. One of the recent contributions to the literature on the subject of eclampsia is by Strogonoff. He reported some 92 cases of eclampsia with a death rate of only 5, and three of these deaths were otherwise explained than by eclampsia. The essential factors of Strogonoff's treatment are these. A light narcosis is maintained by the use of morphia and chloral. He gave $1/4$ gr. morph. after the first convulsion,

and an hour or two later 45 grains of chloral, and these are repeated with a view to keeping the patient mildly under the influence of these drugs for 24 to 48 hours. If occasion requires he empties the uterus, but that is very seldom required. He uses little or no chloroform. All peripheral irritation so far as possible prevented; even drastic cathartics, even extreme measures for diaphoresis are avoided. Strogonoff's treatment has been tried by Newell, of Boston, but not with such good success. Many British and numerous German authorities advocate the use of morphia, notably Olshausen, Veit, and Fehling. They give it in doses of $1/4$ gr. Despite the objections and strong prejudice that obtains against it in this country it should be given further trial till the value can be determined by definite clinical statistics." (Jewett.)

Of the methods of elimination that by saline injections are of especial importance either by bowel or subcutaneously. (enteroclysis or post mammary) Dr. Jewett says: "I have pumped as much as 20 gallons into the bowel through a double (Kemp) tube. It has been claimed that this is more effective than the intravenous or post mammary method, but it has not proven so in my hands." The intravenous method employed by some I have tried in one or two cases, but always with fear and trembling. I think it caused the death of one patient. I think the post mammary is just as effective and much safer and simpler. Of course, each method has its dangers; in the intravenous, you may get excessive heart strain, and in the post mammary, oedema of the lungs. "Dr. Jewett quotes a case in point where in a patient a large quantity of salt solution was injected post mammary. The patient developed a pronounced anasarca."

For the arrest of the over production of the poisons, it is evident that the emptying of the uterus is the most urgent in my mind, for as long as the foetus remains in utero the process still continues. I think it should be emptied as quickly as the patient's condition will tolerate, especially if the convulsions have occurred. Davis says an eclamptic patient can be made to excrete by the use of the hot pack and saline injections into the skin and bowel. Such treatment, if faithfully carried out, may save the patient from eclampsia, but if her tissues have been seriously damaged by the poison, she may recover from convulsions only to die from pulmonary gangrene or failure of the nerve centers. As regards the immediate induction of labor at the onset of convulsion authorities differ. The French school advise waiting for labor to begin and end naturally if possible, while Dührssen and many of the Germans advise immediate "accouchement force" in eclampsia under deep anesthesia. Between the wide limits which these two schools adopt come the greater body of the profession who prefer the middle course. Each case must have its own peculiar treatment based upon the individual condition present and demanding relief. The now almost discarded venesection, I believe to have its indications especially in cases accompanied by a large amount of edema, abundance of albumin, sudden onset of toxic symptoms, full, hard bounding pulse and cyanosis. Prophylaxis is of the most importance in the treatment of the toxæmia of pregnancy, and as many of the toxic symptoms observed in pregnancy are due to deficient excretion, it behooves us in whatever manner possible to stimulate the natural emunctories of the body to their fullest extent. Such symptoms as headache, insomnia, neuralgia, vertigo, fainting spells, nausea and vomiting can be traced oftentimes to faulty elimination. These symptoms should call the attention of the physician and lead to a careful examination of his patient. As regards diet,

just sufficient nitrogenous diet should be given to maintain life, and that in a form that is easily assimilated and will not throw extra work upon the kidneys. The bowels and skin must be kept active by salines and diaphoretics. The ingestion of large amounts of water is the best diuretic. Milk is the ideal diet, exclusively milk until the alarming symptoms abate, and a somewhat more extended dietary is admissible. Dr. De Lee, of Chicago, says as regards narcosis, "The arguments as to utility and safety of this procedure are not yet closed, but they seem to be tending towards the recognition of its value in the majority of cases. Give one-fourth of a grain of morphine every thirty minutes until three-fourths of a grain are taken. Give forty-five grams of chloral per rectum, and repeat in two hours if necessary. Chloroform is now recommended only when one convulsion follows another in rapid succession. Under the above treatment, this will not occur, so he desires the use of chloroform restricted to anesthesia for operation purposes."

Dr. Dobbin, of Baltimore, says: "It is my habit both with private and hospital patients when albumin is present in the urine, to make daily quantitative estimations of the albumin and urea, and record the same on a chart prepared especially for this purpose. The amount of urea is by far of greater importance than the amount of albumin. Thus albumin shown on the chart low in quantity and urea high I would wait, but with albumin high and urea low, I would interfere. After all, each case must receive the special treatment that its own conditions demand and no broad or fast rule can be applied to all alike."

Viewing this condition from all points, it must be admitted that eclampsia is a toxic condition in which some poisons of a coagulative nature exist in the blood, but as to the source of these poisons, nothing definite is known. No absolute proof is at hand to show that the intoxication comes from fetal origin.

*ENTEROPTOSIS AND PREGNANCY.

CHARLES D. AARON,
Detroit.

Enteroptosis or Glenard's disease is often due to a complication of causes. Among these repeated pregnancy is one of the very frequent for the reason that it produces a diminution in the tension of the abdominal wall. Rapid pregnancy presents conditions which favor this diminution and may superinduce enteroptosis. It is probably true that four-fifths of the cases of enteroptosis occur in women. The neuropathic condition of pregnant women may have some explanation in this displacement and consequent gastric and intestinal disturbance. Maillart has devoted much study to the relation which exists between pregnancy and enteroptosis, and has stated that he finds a certain relationship existing between enteroptosis and congenital neurasthenia.

Individuals who suffer from ptosis and become pregnant will have an increased pressure of the intra-abdominal walls. This pressure will vary directly as the uterus increases in volume. Pregnancy produces a marked improvement in the digestive functions in these cases and there is no reason why this improvement cannot be made permanent through proper treatment. This digestive betterment is especially noticeable in the latter months of pregnancy. We may hold, therefore, that normal pregnancy does not exert a bad influence on the ptosis. If after delivery the viscera are sustained for some time a contraction of the abdominal wall takes place and in due time the organs will continue in position. While the uterus is pregnant and enlarges, the organs which are displaced are steadily

forced up into their normal position and the stretched mesenteries thus have an opportunity to regain their tonicity. After delivery the abdominal walls recede holding the organs in a nearly normal position. Although pregnancy is admittedly often a predisposing cause for enteroptosis, I beg leave to submit the report of a few cases in which I have found pregnancy itself serve as a cure of enteroptosis.

Case No. 1. On January 1st, 1897, Mrs. T., age 32, the wife of a dentist in Detroit, Mich., consulted me for what she called indigestion. She gave this history: She had taught school before marriage, broke down with nervous prostration and has been sick ever since. At times she could not sleep and, on account of an attack of bronchitis, was compelled to go South. Since then she has had trouble with her stomach. When she consulted me first, she complained of headache, pain after eating, eructations of gas, sleeplessness and a feeling of exhaustion. She had lost fifteen pounds in weight. An examination of her blood, urine and stomach contents proved them to be normal. On physical examination she was found to have an enteroptosis. I applied an abdominal support and treated her case in accordance with the usual methods, and, the improvement while apparent, was slow. I explained to her husband that it would be helpful to her if she were to become pregnant. He assured me that they had endeavored to prevent this up to the present time, for the reason that they did not think she was strong enough to carry a child. After explaining her condition to him carefully, she became pregnant three months later. During the time of pregnancy all her symptoms gradually disappeared, she became stronger and seemed to be practically well. After delivery, she was kept in bed longer than the usual time, so as to be sure there

*Read before the Michigan State Medical Society at Port Huron, Mich., June 26-27, 1902.

would be no dragging on the mesenteries. She had the freedom of the bed for three weeks and was not allowed to get out of it, excepting for micturition and defecation. I applied a firm band to the abdomen which was tightened morning and night, so that the organs would remain in situ. At the end of three weeks, she was allowed to get up for an hour a day and gradually for a longer time, and none of her former symptoms returned. This improved condition has continued now for four years and she seems to be practically well.

Case No. 2. Mrs. B., age 37, consulted me August 3rd, 1899. She had been pregnant eleven years previously and from that time had been troubled in many ways. During the past year she had been compelled to live on milk and lime water. At the time I first saw her, she had no appetite. Solids would produce pain in the stomach. Acids would make her mouth sore, she vomited large quantities of mucus, had eructations of gas, vertigo and dizziness, ringing in the ears; could walk only a short distance without being exhausted and bowels were constipated. An examination of her blood and urine proved them normal. The stomach contents showed hyperchlorhydria. There were large quantities of mucus in the feces. On physical examination she was found to have a pronounced enteroptosis. By applying a suitable support, electricity and symptomatic treatment, she began to improve. Eighteen months ago she became pregnant and, after delivery, she was kept in bed for three weeks with a tight fitting bandage. She has made an apparently complete recovery.

Case No. 3. Mrs. F., age 31, consulted me November 10th, 1899, for exhaustion and dyspeptic difficulties. At this time she complained of distress after meals, bloated feeling of the bowels,

belching of gas, constipation, backache, tires quickly, is unable to do her housework, has palpitation of the heart, sleeps poorly and is exceedingly nervous. She has lost fifteen pounds in weight. An examination proved an enteroptosis. She became pregnant in March, 1900, when all of her symptoms gradually disappeared. After delivery she was given the same care as the other two patients and has made a complete recovery.

Case No. 4. Miss R., age 26, consulted me January 18th, 1901. She complained of fullness after meals and sharp pains, eructations of gas, backache, and bloated sensation in the stomach. She felt weak and tired all the time, slept poorly, lost sixteen pounds, bowels constipated, mucus in stool. An examination proved an enteroptosis. Under rational treatment she improved in weight, so that on May 23rd she weighed 124½ pounds, a gain of eight pounds. She was married the following month, became pregnant and, after delivery, was kept in bed for three weeks with the bandage applied in the usual manner and has remained well ever since.

In conclusion let me say:

1. That the dispensing with the abdominal bandage after pregnancy according to the new method of obstetricians predisposes to enteroptosis.

2. Pregnancy favors and assists the cure of enteroptosis.

3. Patients with enteroptosis need not, on its account, hesitate to be exposed to pregnancy.

4. The disagreeable symptoms of enteroptosis seem to disappear, while the patient is carrying the child.

5. Keeping the patient in bed after delivery and applying an effective band is very helpful in the cure of enteroptosis.

6. Early convalescence after delivery and insufficient support to the abdomen predisposes the patient to enteroptosis.

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LIVINGSTON.....	W. J. MCHECH.....	Brighton.....	R. H. BAIRD.....	Howell.....
MACOMB.....	P. A. KNIGHT.....	Mt. Clemens.....	JOS. M. CROMAN.....	Mt. Clemens.....
MANISTEE.....	ELLSWORTH S. ELLIS.....	Manistee.....	W. K. BRANCH.....	Manistee.....
MARQUETTE.....	J. H. ANDRUS.....	Ishpeming.....	H. J. HORNEBOGEN.....	Marquette.....
MASON.....	A. P. MCCONNELL.....	Ludington.....	W. C. MARTIN.....	Scottville.....
MIDLAND.....	A. D. SALISBURY.....	Midland.....	W. H. BROCK.....	Midland.....
MISSAUKEE.....	J. G. REINBERG.....	McBain.....	J. F. DODD.....	Lake City.....
MECOSTA.....	J. W. MCNEEC.....	Moreley.....	F. C. TERRILL.....	Big Rapids.....
MONTCALM.....	JOHN AVERY.....	Greenville.....	H. L. BOWER.....	Greenville.....
MONROE.....	V. SISUNG.....	Monroe.....	GEO. T. HEATH.....	Monroe.....
OAKLAND.....	F. B. GALBRAITH.....	Pontiac.....	WM. MCCARROLL.....	Pontiac.....
O-M-C-O-R-O.....	S. N. INSLEY.....	Grayling.....	C. C. CURNALIA.....	Roscommon.....
OSCEOLA.....	D. L. DUMON.....	Evart.....	THOS. F. BRAY.....	Reed City.....
OTTAWA.....	HENRY KREMERS.....	Holland.....	D. G. COOK.....	Holland.....
SAGINAW.....	T. M. WILLIAMSON.....	Saginaw.....	M. D. RYAN.....	Saginaw.....
SANILAC.....	H. W. SMITH.....	Carsonville.....	GEO. S. TWEDDIE.....	Sanilac Centre.....
SHIAWASSEE.....	D. H. LAMB.....	Owosso.....	CHARLES SHICKLE.....	Owosso.....
ST. CLAIR.....	C. C. CLANCY.....	Pt. Huron.....	A. HENRI COTE.....	Port Huron.....
ST. JOSEPH.....	MARDEN SABIN.....	Centreville.....	JOHN R. WILLIAMS.....	White Pigeon.....
TUSCOLA.....	A. L. SEELY.....	Mayville.....	W. C. GARVIN.....	Millington.....
VAN BUREN.....	GEO. D. CARNES.....	So. Haven.....	N. A. WILLIAMS.....	Bangor.....
WASHTENAW.....	REUBEN PETERSON.....	Ann Arbor.....	J. W. KEATING.....	Ann Arbor.....
WAYNE.....	F. B. TIBBALS.....	Detroit.....	HUGH MULHERON.....	Detroit.....
WEXFORD.....	B. H. McMULLEN.....	Cadillac.....	G. D. MILLER.....	Cadillac.....

Editorial

COUNTY SOCIETIES AND PUBLIC QUESTIONS.

The County Societies in Michigan have exclusive jurisdiction, as the State Society guards them from any rival. This encourages exhaustive study of any question which may come before them. If the question be one of public interest, they can take the time needful to formulate exact statements, and advise the wisest action.

In every county the knowledge and judgment of the medical profession are sought in matters relating to civic life and public health. In the past it has occurred that one society or set of doctors hastily gave one view while another set gave an opposite. In supporting these views the public has been treated to a spectacle as edifying as a scrap of Kilkenny cats and as helpful to the public as a dog fight. As it sells their papers, the newspapers egg on the fight.

With a monopoly of their counties the Branch Societies have no temptation to disagree. Being supreme in their field, they are encouraged to use this to advance the interests of every physician and the public whom all serve—so promoting mutual respect and confidence. Hence, if their judgment on any matter relating to the laity be sought, they will (1) make a thorough study of the same; (2) their judgment will be expressed in terms impossible to be mistaken by the laity.

To accomplish this the question should be referred to an appropriate committee, familiar with the subject, willing to study it exhaustively, and able best to express its conclusions. This committee will usually be the Executive Committee, but it may

consist of the President and Secretary, or one especially selected. The make up of the committee is unimportant, if only it fully master the question, and forcefully express the same. This done, there can be no controversy—nothing to mar the confidence of the laity in the profession. The result will be a uniform, up-to-date, teaching of the laity on matters affecting their interest. It will eliminate the possibility of an individual or clique “working” the society for schemes for his or its own interest at the expense of others.

Only thus will the medical profession gain its birthright as a teacher of the people, and command the respect due disciples of science and guardians of health interests. Our Branch Societies have this end within their grasp—if done in each county, it is done in the State. If done in Michigan, it will spread till every county in the United States has seen and risen to its opportunity.

Let us discard—in county societies—superficial examination of public or quasi-public questions, snap diagnosis, haphazard treatment; let us follow our custom in capital operations for which we are held responsible—make the most exhaustive study of the case, and complete preparation of every detail, ere speaking to the public.

LEARTUS CONNOR.

THE MEDICAL SOCIETY HABIT.

So largely is medicine the personal teaching of one doctor by another, that frequent meetings are indispensable to reach the highest standard. It is noted that when one has discovered some new method of operating or treating cases with better results than his fellows, some

of the brighter make pilgrimages to learn the new methods. In this way the excellence of one is scattered to far distant regions. It seems that the mere verbal description of the book, or journal article, fails to tell the entire story.

Others meet in bodies large or small, for comparison of ideas, that each may glean from the other that which he lacks and the other possesses. These may be said to have acquired the society habit. The great mass of the medical profession of Michigan has never acquired this habit.

The organization in Michigan, unfolding with such astonishing results during the past eight months, is an intelligent effort to enable every reputable physician to acquire the medical society habit. It has already planted a medical society in seventy counties, and hopes to include the entire eighty-three in the State ere the annual meeting. Anterior to this at most only fifteen medical societies existed in the State.

As in all organizations the strong will help the weak, so that those who are real or potential members will give the aid the one needs and the others possess. It is quite impossible for any earnest seeker for better equipment to spend an hour in discussing a medical topic with a brother doctor without reward large or small.

Since no little skepticism exists as to the benefit of any medical society, it is for the friends of organization in Michigan to show that the present movement differs from all ever preceding it, to so large a degree as to remove the basis of said skepticism. This calls for a clear knowledge, overflowing enthusiasm, and a determination to enroll the skeptic in the movement—a clear headed educator in this branch of medical sociology.

Indolence or indifference is everywhere. The first is met by the awakening of interest in the broader outlook of the organization, the stimulus of a new hope for better things, the stirring of an ambition to excel. The latter is overcome by showing that indifferent physicians will be outdistanced by neighbors working for, and in a medical society, unless they too cast their lot therein.

It is confidently believed that the Michigan State Society and its Branches offer so much to the individual doctor of high or low degree, that he would join one of its numerous Branches—if only some person make the advantages clear to him.

To teach the "Society Habit" to Michigan's five thousand doctors calls for persistent, tactful, broad minded, unselfish devotion to the best interests of the profession. It is suggested that from this time onward every young doctor be brought into the County Branch as soon as he locates. The older members of the profession are more difficult to reach, but few will prove invulnerable to the attractions now offered to all in Michigan. Let each member join in the work of "gathering them in" heartily as if he were the sole worker—and the thing is done.

LEARTUS CONNOR.

County Society News.

THE NOTTINGHAM BILL.

The following is a copy of a letter sent to the Secretaries of all County Medical Societies of the State. There was also enclosed a copy of reprint on "Present Status of Medical Registration in Michigan:"

DEAR DOCTOR—I am enclosing you a copy of House Bill No. 204, introduced by Dr. Nottingham, January 30th last, which bill amends the present, or Chandler Medical Act.

These amendments are almost identical to the suggested amendments approved of by the State Society at the Port Huron meeting, June 27, 1902.

Will you kindly bring this bill up at the next meeting of your County Society and have it endorsed and officially instruct the Senator and Representatives of your district to support it in its entirety in the Legislature?

You will understand, of course, that it is an almost impossible matter to frame a bill satisfactory in all its details to everyone, and the bill should be criticised from the standpoint of its general efficiency and raising of the standard in the matter of the regulation of the practice of medicine in this State. The proposed amendments will bring the Michigan Medical Act up to the standards of the better States, and will form a basis upon which reciprocity can be carried into practical effect with all of the leading States in the Union.

In order that the Society's endorsement may be effectual, kindly bring the matter before it at an early date.

Yours very truly,

B. D. HARISON,

Chairman, Committee on Public Policy and Legislation, Michigan State Medical Society.

BAY COUNTY.

PREVENTABLE DEAFNESS.

CHAS. H. BAKER,
Bay City.

There is, hiding in the retired places of the world, withdrawing as much as possible from the notice of their fellow beings, a vast army of people suffering mental tortures equal in degree to the greatest physical suffering that could be endured; sensitive without reason to the supposed gibes and taunts of their fellows, and shutting themselves off from contact, so far as possible, with the rest of the world; they are the victims of an infirmity little thought of by their fellows until themselves attacked—I mean the people who are hopelessly deaf.

No one, not in their condition, can appreciate the anguish of mind endured by these persons, or know the loss, both financial and social, they have to bear. Not only are they deprived of the social intercourse which their fellows enjoy, but they are in constant dangers not experienced by the rest of mankind; dangers both to limb and life from injuries which men with hearing easily escape. To the earning of a livelihood the hearing is scarcely less essential than is sight, and observation of many of these unfortunates impels

me to believe the totally blind are, as a rule, far happier than the totally deaf.

These are my reasons for inflicting a paper upon you on a subject which most men would vote a bore—namely, the subject of deafness.

In writing a paper on the subject of deafness I have aimed simply to present some of the more common causes which are often overlooked, and point out the mode of their treatment. Deafness may be defined, if definition is needed, as the more or less complete loss of the differential perception of sound waves.

This loss may occur as the result of obstruction or destruction of some part of the auditory apparatus, and may be congenital or acquired. For purposes of study the hearing mechanism may be divided into: First, the external ear, which comprises all outside the drum membrane; second, the middle ear, comprising the tympanic cavity and its accessory cavities, the eustachian tube and the mastoid cells; third, the internal ear, comprising the cochlea, labyrinth, and semi-circular canals; and lastly, the auditory nerve tract back to its cerebral origin.

Anything which interferes with the integrity of any of these parts may impair or prevent hearing, while on the other hand serious destruction may involve parts of these organs without interfering with sound perception very materially.

Causes affecting the auricle only do not often affect the hearing; *e. g.*, the auricle may be entirely removed by accident or design and hearing be not measurably changed, or congenitally, it may be reduced to a mere stub, may be affected with tumors or otherwise mutilated, and the hearing remain normal. Obstruction of the auditory canal, unless very nearly complete, does not often cause total deafness. Obstruction may be caused by a foreign body impacted in the canal, and may be almost any substance. Thus, I have found pebbles, mortar, putty, cerumen, flies, peas, nuts, toothpicks, bugs and beetles, all of which may have been in place months or years.

Non-absorbent substances may remain a long time without causing trouble if the pressure does not irritate the canal and produce ulceration. I have removed a pebble after it had remained in place for twenty years and was completely imbedded in cerumen. Peas, beans, and other absorbing substances, give rise to trouble very soon after their introduction, and, if allowed to swell, are difficult of removal. Most foreign substances are easily removed with the two-ounce syringe of the Pomeroy pattern, if there are spaces, however small, through which the water may find

its way behind the body. Considerable force may be applied to the syringe without injury to the drum or pain to the patient. Valuable instrumental aids to the removal of foreign bodies are Wilde's toothed ear forceps, the spiral ear spoon, and the little, hooked, blunt curette. Should moderate measures fail to secure removal, use chloroform at once and with a good light the removal is usually easily effected. Too vigorous effort, without the help of chloroform, often destroys the drum, as I have seen happen in the hands of really competent physicians, so that caution and tact must always be used.

One of my friends who had the misfortune to tear the drum membrane in the effort to remove a beetle three-quarters of an inch long, with the help of unsuitable forceps, afterwards called my attention to a very practical method which is worthy of trial. It consists in the use of a probe wound with cotton and dipped in collodion, which is applied to the foreign substance until dry, when it can be withdrawn with the offending matter attached.

Impacted cerumen is one of the most common and easily removed causes of deafness. After elevating the lower edge of the wax with the probe to allow the water access to the space next the drum, inject warm water with a two-ounce piston syringe into the canal, which will usually bring the cerumen out in a cast of the canal. A saturated solution of sodii bicarb. used for a day or two beforehand will often materially assist in the removal when the wax is very hard.

Furuncles sometimes obstruct the canal sufficiently to interfere with the hearing, but the hearing promptly comes back with the subsidence of the swelling following evacuation of the pus.

It is sometimes difficult to determine on first examination whether there is anything except a furuncle present, for the pain and swelling are out of all proportion to the gravity of the disorder, owing to the small amount of subcutaneous connective tissue, which interferes with the exudates passing out of the vessels.

With mastoid periostitis pus may point in the canal and be difficult to distinguish from a furuncle until it is incised, but the bone will be found denuded when explored with the probe when periostitis is present, and is not likely to be if the case is simple furuncle.

Obstructive and destructive conditions of the middle ear will next engage our attention.

These are the most common causes of deafness, and so engage the most attention from

aural surgeons, and demand the most time and patience in their treatment.

First in order of frequency are catarrhal diseases of the tympanic cavity and eustachian tube. Childhood is the time of commonest occurrence, and the amount of suffering which might be prevented is incalculable. The post-nasal cavities in children are relatively very small and are liable to still further narrowing by swelling and hyperplasia of the glandular tissues so freely distributed in the vault of the pharynx. A slight cold will cause the pharyngeal glands and the mucous membrane lining of the eustachian tubes to swell, and by the swelling and accumulation of mucus the tube is shut up, and as the air contained in the tympanum is absorbed the atmospheric pressure pushes the drum membrane in upon the wall of the skull, the bones are displaced, pain is at once manifest, and the child is crying with earache.

The drum quickly becomes congested and the lining mucosa of the tympanum participates in the congestion.

If nothing is done the condition speedily passes into acute inflammation. At this stage instant and complete relief will follow the simple expedient of inflating the middle ear with the Politzer air-bag, or in its absence any rubber tube and the physician's lungs may answer equally well.

The tube of a Davidson syringe will answer admirably. Inserting the tube into one nostril tightly and closing the other with the finger, instruct the child to puff up the cheeks; or, if too young, or crying, forcibly drive the air into the closed cavities, when in the majority of cases the eustachian tube will open and the pain will speedily disappear. Sometimes it will be best to drop two or three drops of a 4 per cent. cocaine solution into the nostrils and allow it to run back to the naso-pharynx, where, by its astringent action, the membranes will be shrunk and the eustachian tube rendered more pervious, when the inflation will be comparatively easy. Adrenalin chloride will act still better if there is much inflammation, when used in a 1-2000 solution. If the patient is not seen until active inflammation has begun, and the membrane is bulging, it is better to incise the drum at once than to wait for Nature to make the opening, because the drainage will be better and the opening thus made heals better when the inflammation is arrested.

Spontaneous rupture or incision is usually followed by prompt relief of the pain, and with simple, frequent cleansing the discharge will soon cease.

Many of these patients have repeated attacks, at greater or less intervals of time, and when this occurs an examination should always be made of the naso-pharynx for adenoids. This examination is best made with the finger passed behind the palate, and is done as follows: Embracing the child's head with the left arm and having it open the mouth, with the forefinger of the left hand push the cheek of that side between the teeth, which prevents the most unruly child from biting, for he will not bite himself. Then insert the forefinger of the right hand behind the palate, when, if adenoids are present, they will be felt as a cushiony mass in the pharyngeal vault.

It is not necessary that there should be much obstruction to the breathing for adenoids to be the cause of serious impairment of hearing, and in fact many of the more serious cases have very moderate sized growths.

Unless the vault is clear of the growths, in these relapsing cases, I make it a general rule to remove all vegetations and invariably with benefit to the hearing. The removal is best done with the Gottstein curette, next with the forceps or snare, while in quite recent cases it can be very satisfactorily accomplished with the finger nail. Chloroform allows of a thorough operation being done, and is much less mental shock to the patient. The physical improvement which follows this operation is often astonishing, one mother assuring me her child grew more in the next four months than in the previous two years. Invariably the appetite is improved and steadied, the breathing improved, and sleep become restful and quiet. Nutrition rapidly grows good, the color improves, and the tendency to head colds is overcome.

There is a very large number of cases of deafness in every community, ranging from a very slight lessening to almost total loss of sound perception, occurring in persons usually above the age of twenty, which has been the bane of the aural surgeon.

These are the dry catarrhal cases, or atrophic middle ear cases, and prolonged observation has convinced me that these cases nearly all arise from the neglected cases of adenoids in children. When these persons appear for treatment there is usually no other lesion to be found than a thin and retracted drum membrane, usually accompanied by an atrophied pharyngeal mucous membrane, and the most we can do for them is occasionally to arrest the process of atrophy where it is, if, indeed, we are able to do even so much as this. Our duty then

is plainly to do what may be done to prevent the occurrence of this hopeless form of deafness; and this can only be done by extending the knowledge of the cause most widely among the members of the profession, in order that they may be on the lookout for the less marked signs of adenoids, and see that they are operated upon early, before the mischief is done.

Any person can recognize a marked case of adenoids, which has advanced up to the point of marked obstruction to the breathing, but we all need to be more alive to the lesser signs of their presence. The child with fitful appetite; pale, muddy complexion; easily tired; a restless sleeper; subject to frequent head colds; nocturnal enuresis; constant tendency to clear the throat by "hemming," and possessed by a constant, soft rattling cough, without expectoration, with either or all these symptoms, is a suspicious case at the least, and should be examined for adenoids. If a child is hard of hearing, either when suffering with a head cold or without, an examination ought also to be made with the possible presence of these growths in mind; and if found they ought always to be extirpated without much delay.

Many will prefer to temporize in the hope of shrinking the material away, but this is a hopeless task except you wait so long that serious mischief is done.

Suppuration and perforation of the drum membrane is very common after the exanthems influenza and diphtheria, due, of course, to the direct extension of the throat inflammation to the middle ear via the eustachian tube. The purulent discharge is much more intractable when it arises from these causes than from "colds" or that class of infections.

There is a belief prevalent among the laity—and, indeed, the profession, as well—that suppuration from the auditory canal proceeds from its wall, and not from the tympanum except in rare instances. Nothing could be more untrue, for with the exception of eczema of the canal it always comes through the drum, and the eczema is more often the result than the cause of the pus. The patient's friends are given to dropping into the external canal various oils, liniments, etc., which are not only of no use, but often positively harmful. While the drum is intact nothing is indicated but hot water, as hot as can be borne, in very large quantities—a quart to a gallon at a time, introduced with a fountain syringe, which is to be placed a foot higher than the ear.

The ear must be inflated also in order to blow out the secretions and relieve the pressure upon

the labyrinth. for so long as the external pressure greatly exceeds the internal the pain will continue unabated.

The only drug which I have found to give much relief to the earache is cocaine dissolved in aniline oil. In any other form it is as inert as all the rest of them. The solution is: R cocaine hydrochlorate, gr. 10; aniline oil, m. 100; absolute alcohol, m. 100. Sig., one to two drops in the ear once in three hours.

In young children caution must be used with this formula, as some are quite susceptible to the aniline oil and may show the same collapse as from an overdose of acetanilid.

On account of the frequent occurrence of middle ear disease in the exanthems the throat must receive especial care from the physician during their continuance, and frequent inspections be made of the drums for signs of threatened danger, because the membrane frequently ruptures without preceding pain. The importance of this care will be understood when the fact is noted that over half the deaf mutes in all the asylums are deaf from the above causes.

If there is much exudate in the throat, and especially if the ears show signs of invasion, the nose and throat need frequent spraying with some alkaline and antiseptic wash or the normal salt solution. Care must be used that the patient does not blow the nose while any amount of the fluid remains in the pharynx, as there is danger of doing the very thing which you are seeking to avoid, namely, infect the middle ear.

If in spite of all efforts the membrane ruptures the case must have assiduous attention. The pus must not be allowed to remain very long at a time in contact, but must be cleared several times daily with the help of hydrogen peroxide and irrigation with hot borax solutions.

Secretions require to be blown from the tympanum with the Politzer air bag, and if these things are well and faithfully attended to most cases will promptly recover without any loss of hearing.

A word as to the use of hydrogen peroxide. If dropped into a patent auditory canal with a medicine dropper there is little danger of the rapid evolution of gas forcing the infected pus into parts of the ear not yet invaded; but if any amount is injected into the tympanum there is grave danger of this accident happening.

The secret of success in treating suppuration of the middle ear is early attention and efficient cleansing, and so far as possible keeping the canal dry. The patient can easily be instructed in the dry cleansing with absorbent cotton wound

on a toothpick, which can be carried in the pocket and used several times daily. These patients require to be seen daily while the discharge is abundant, to prevent possible blocking of the outlet of pus by collection of debris imperfectly removed.

The number of patients going about the world with discharging ears is almost incredible, especially in the light of modern knowledge of the risk to both hearing and life itself from this neglect.

It is a very common experience to have a patient say he has been told by his physician that there is nothing to be feared from a running ear; "just a little wash will soon set things right." No inspection has been made, and the doctor has contented himself with prescribing without so much as a glance at the seat of trouble.

A running ear is a powder mine, liable to explosion at any time, and likely to be as fatal as the mine itself.

Every physician ought to familiarize himself with the normal appearance of the auditory canal and the drum membrane. This requires a good source of light and a head mirror and a little time and care to familiarize himself with their use. The light may be a good kerosene lamp in absence of better facilities, but the best all-around light is the Welsbach gas burner inclosed in a hood.

This preliminary training will save the mistake of confusing hardened cerumen with swelling of the canal or polypus with a foreign body, as I have known to be done, even by good physicians who had been a little careless or jumped at a conclusion without inspection.

Should pus continue to be discharged beyond two or three weeks at the furthest, careful inspection will often reveal a polyp commencing to form, or a boggy state of the inner wall of the tympanum resembling a granulation. This may be touched with a crystal of chromic acid fused on a probe, often bringing a troublesome suppuration to a rapid ending.

Long continued suppuration is caused by one of three conditions—degeneration of the mucous membrane, granulation, or polypus, which are different stages of the same pathological state—caries of the ossicles, or the wall of the tympanum; and third, cholesteatoma, which is a collection of epithelial scales, pus, cholesterin and microbes.

When persistent, intelligent cleansing fails to promptly check aural suppuration, the case should have careful inspection with reference to the pres-

ence of one of the above conditions, removal of which will usually bring the case to a favorable termination. There are other, rarer forms of deafness which I have not mentioned, and I have purposely omitted to speak of the serious complications likely to arise from aural suppuration, as that is a subject too broad to be cramped into the limits of the time at our disposal, and I wish to speak of but one thing more. Deafness is far easier to prevent than to cure. Deafness is the result of processes almost without exception originating in childhood, and mostly easy of control or removal; whence it becomes the duty of every physician to familiarize himself with these causes in order that he may take the necessary steps in time to prevent the changes which will add to the great body of recruits for the vast army of unhappy inefficient—the hopelessly deaf.

INGHAM COUNTY.

A meeting of the Ingham County Medical Society was held at Lansing March 12th. The following is the program of the meeting: 2 p. m., business meeting; 3 p. m., address by Judge R. H. Pierson, "The Relation the Physician Sustains to the Law;" 4 p. m., paper, "Lagrippe," Dr. H. A. Haze. Discussions led by Dr. F. W. Shumway, Williamston; Dr. G. B. Wade, Laingsburg. Presentation of cases.

L. ANNA BALLARD, Secretary.

IONIA COUNTY.

The first regular meeting of the Ionia County Medical Society was held at Ionia, January 8th. The meeting was called to order by President C. S. Cope, M. D., of this city, who welcomed the visiting M. D.'s. A paper on "Vaccine and Vaccination," by C. A. Stanton, M. D., of Belding, and a report of a "Case of Catarrh of the Stomach," by Charles E. Baily, M. D., was the program before dinner. The other numbers on the program were: "Medical Ethics," by C. S. Cope, M. D., President of the Society; "Treatment of Appendicitis," by J. G. Bird, Ionia; "Five Years' Sojourn in the Medical Colleges of London and Edinburgh," R. Logan, M. D., Ionia; "Surgical Treatment of Procidemia," Reuben Peterson, M. D., of Ann Arbor.

Dr. F. W. Braley, of Saranac, was chosen to represent the Society at the next meeting of the

State Society. The next meeting of the County Society will be held at Belding, date unannounced.

F. W. BRALEY, Secretary.

LIVINGSTON COUNTY.

The Livingston County Medical Society met in Howell, March 17th. Dr. Aaron Cooper, of Fowlerville, was elected as delegate to the State convention. The following committee on medical legislation was elected: Dr. H. F. Sigler, Dr. J. H. Egbert, Dr. A. S. Austin.

Dr. J. H. Egbert read a paper on "Surgical Anatomy of the Appendix."

R. H. BAIRD, Secretary.

MONTCALM COUNTY.

The following is the program of the meeting of the Montcalm County Medical Society, to be held at Lakeview, April 9th:

10 A. M.

1. Call to order by the President.
2. Clinic.
3. Reading the minutes of the last meeting.
4. Communications.
5. Paper, "Certain Skin Diseases.....
.....Dr. L. S. Crotser
Discussion ..Opened by Dr. A. P. Culbertson
6. Report of caseDr. W. P. Gamber
7. Paper, "The Earliest Reliable Signs
of Pregnancy"Dr. R. H. Blaisdell
DiscussionLed by Dr. A. L. Corey
8. Paper, "Chronic Nephritis".....
Dr. George F. Butler, of Alma Sanitarium
9. Paper, "The Therapeutic Uses of
Arsenic"Dr. N. E. Bachman
DiscussionLed by Dr. J. Purden
10. Report of caseDr. D. K. Black
11. Paper, "Differential Diagnosis of Cer-
tain Pelvic Diseases".....Dr. L. S. Griswold
DiscussionLed by Dr. A. W. Nichols
12. Paper, "Diphtheria Diagnosis and
Treatment"Dr. S. S. Ludlum
DiscussionLed by Dr. Josiah Black
13. Paper, "Surgical Emergencies".....
.....Dr. W. H. Belknap
DiscussionDr. A. E. Savage
14. Miscellaneous business and adjournment.

The officers very properly call the attention of the members to the following resolutions, which were adopted at the annual meeting of the Council in Detroit, Jan. 9, 1903.

1st. Every member of a chartered County Society is a member of the State Society, and the dues to both must accompany his application for membership in his County Society.

2d. Each old member of the State Society must affiliate himself with his County Society, in those counties in which a chartered organization exists, as soon as expedient—not later than Jan. 1, 1904.

It is hoped that every registered physician in good standing will avail himself of the privilege of membership in our County Society.

The membership fee for County and State membership combined is but \$3.00 per year, and this, makes one eligible to membership in the American Medical Association.

Let there be a grand rally at this meeting, preparatory to the state meeting to be held in Detroit in June.

Officers—President, John Avery; first vice-president, N. E. Bachman; second vice-president, F. R. Blanchard; third vice-president, G. A. Stanton; fourth vice-president, L. S. Crotser; secretary and treasurer, H. L. Bower.

H. L. BOWER, Secretary.

ST. JOSEPH COUNTY.

The St. Joseph County Medical Society met at Centreville, March 10th. On account of bad weather the attendance was not as large as usual. Dr. Blanche Moore Haines, of Three Rivers, read an interesting paper on "The Trained Nurse." The paper caused a general discussion by Drs. Kingsley, Cameron, Haines, Sabin and Long.

Drs. Long and Barnaby presented an interesting surgical case. The patient, a boy, fell against a saw, three-eighths of an inch thick, while the same was in rapid motion; the right arm was amputated at the wrist; there was a deep cut through the frontal and parietal bones seven and a half inches long, profuse hemorrhage following; this was controlled by packing. There has been a free discharge of pus with a pink, watery discharge; the wound is now closed for one-half the length of the cut, but an enlargement the size of one-half an egg appeared. The pulse, at first 70, has fallen day by day until it is now about 45 per minute. This interesting case was informally discussed.

Upon motion the secretary was instructed to correspond with our senators and representatives informing them that this society favored unanimously the Nottingham bill.

The next meeting will be held at White Pigeon, April 14.

PNEUMONIA.

W. A. FERGUSON,
Sturgis.

I well know the many anxious moments that we have all spent with complications of pneumonia, and it is on these complications that I wish to dwell. But before commencing this subject it may be well to consider the philosophy of fever in its abstract sense. Fever is an abnormal condition, made known by an increased temperature, quick pulse, increased respirations and a general waste of tissues, caused by perverted secretions of the body in general. Now, the cause may be idiopathic or traumatic. Keeping these facts in view all the way down the line through the different stages of pneumonia, we are better prepared to give treatment that will be in line with the pathological conditions of each stage of the disease. We well know that the lungs are the organs that feed the body with oxygen and also take from the body the excess of carbon dioxide that the blood has gathered from the tissues, and when this function has been interrupted by colds or other causes we see at once the grave injury that may be done to the human system.

In the days of Galen and many others of those times the causes of disease were not dwelt on as much as they are to-day. Biology, chemistry and bacteriology had not been investigated to a certainty in many lines of human economy as they are to-day. But thanks to many of those old heroes for the landmarks they left to the medical and scientific world.

In the history of the different causes of pneumonia we find that sudden changes in the temperature produce this disease more than any other single cause. Lowered vitality, by reason of rickets, Bright's disease or bad hygienic surroundings may all be factors in bringing this disease to its full development. The exciting cause is now supposed to be the presence of pneumococci or diplococci. These germs as an identity in the exciting cause of disease are, comparatively speaking, of recent discovery. The time may come when the medical fraternity will have a mastery over these germs and know just what

to do to expel them from the human system. Among predisposing causes we may have measles, whooping cough, scarlet fever, influenza, bronchitis. Each attack of this disease makes the patient more susceptible to following attacks, and therefore it is our duty as physicians to warn them of this fact. Seasons of the year seem to have more effect on this disease than climate.

Etiology.—From a clinical standpoint, lobar pneumonia is an infectious, self-limited disease, generally characterized by three principal stages: First, stage of engorgement; second, stage of red hepatization; third, gray hepatization, with liquefaction and resolution by absorption and expectoration, or solidification and death. Many times we are at a loss to know why our patients pass from the acute stage to the chronic form, and linger along for many weeks, apparently between life and death. By careful investigation of the pathology of pneumonia we find that the lining of the air cells undergoes a marked change while passing from the stage of red hepatization to the stage of gray hepatization. In the earlier stages of the disease we have an excess of fibrinous matter mixed with a small percentage of blood in the air cells of the lung, but as the disease continues from the second to the third stage this matter forms a granular character, due to fat-drops in the interior of the cell. Now, if these molecules of fat completely emulsify with the fibrin and mucus in the cell we get liquefaction, and absorption will generally follow, with resolution as a result. But if this process does not take place, the cells will atrophy to a certain extent and many cases will go into a chronic state; and thus we get a reason for chronic pneumonia. There may be other conditions that would contribute to chronic pneumonia, but they are not the principal causes from the fact that chronic pneumonia never takes place until these pathological changes take place within the cells of the lung that I have mentioned. When we stop and realize the fact that the blood on the one hand must receive all the products of digestion, and on the other hand must dispose of all the waste products of the tissues from the lymphatic system, and that the lungs are the principal organs by which the blood can complete this process, we can readily see the gravity of pneumonia in its many forms.

Pathology.—I do not know that I shall be able to add one single ray of light on this part of the subject to this society of professional men. The stage of engorgement is known as the first stage of this disease. In this

stage we find the pulmonary vessels very full. The tissue is of purple tint, is heavier than natural, and has lost some of its elasticity; on cutting into the lung we get a bloody serum, that becomes frothy when mixed with air, due to the surplus of carbon in the blood cells. The microscope shows a dilated condition of the capillaries of the pulmonary artery and a dilatation of the air cells of the lungs. At this stage of the disease we do not get much development of the physical signs that will come in the stages of red and gray hepatization, and at this point permit me to say that in my earlier practice I have misdiagnosed my case by being in too great haste and not waiting for the physical signs to become more developed. The question often arises in my mind whether the lung gets its principal nutrition from the pulmonary artery more than from the bronchial capillaries or not. At present I am inclined to believe that the pulmonary artery furnishes the major part of nutrition to the lungs, from the fact that it is the gateway by which the blood gets back to the general system through the left heart.

Red Hepatization.—In this stage the torn surface of the lung has a granular appearance called by many writers the nutmeg lung. In this state the bronchial vessels are distinct and may be filled with exudated matter. Also the lung tissue is very heavy, sometimes being one-ninth heavier than the natural lung. The lung is expanded to its full extent. The exudation in this stage is largely composed of coagulated fibrin with red and white blood corpuscles intermixed. If the inflammatory process of this stage reaches the surface of the lung the plura invariably becomes involved and is covered with a fibrous exudation. After a few days the color begins to change to a grayish caste, due to an increase in the leucocytes of the blood. With this change of color we notice a loss of solidity of the affected tissue and the exudation begins to liquefy, if the process is not hindered by other causes. The second and third stages are so blended together that it is difficult to know just when the second stage ends and the third stage begins.

Gray Hepatization.—In this stage the tissue has lost its firmness and also its previous color. The tissue is soft and pulpy, and a dirty gray fluid escapes under pressure or by scraping the tissue. Where pneumonia has been secondary to some other disease we may find different conditions in the tissues. For instance, I held a post mortem on a case that had Bright's disease previous to his attack of pneumonia, and in this

case the tissue was uniform, smooth and glistening. Now, by looking up the pathology of Bright's disease we find that its evil effects are on the kidneys, arteries and heart, and the arteries are many times calcified and their walls become thickened. This condition would prevent the natural order of process in the stage of gray hepatization of the lung. Applied pathology of other diseases many times gives a solution to some of the unnatural order of things in pneumonia in its various complications. Pus cells are present in all pneumonia processes, and sometimes the lung suppurates. In this stage the lung presents a yellower appearance, and the granular character is not present; but pathologists of to-day look upon this condition as one of degree in the softening process and not of composition in the matter exudated. During the stage of resolution the cell forms have degenerated and broken down, and are disposed of by absorption and expectoration. With children and infants the process is by absorption, and with adults both processes take place. There is one more point that I wish to notice, and that is: If we use the acetic acid test with the fluid from the stage of engorgement, and then use the same test with the fluid from the stage of gray hepatization, we will get the same result. This shows that the composition is about the same, and that the different characters of the exudate are produced by the inflammatory process of each stage of the disease.

Site of the Disease.—My experience on this point has been in lobar form—first, left base; second, right apex; third, in double form lower lobe of both lungs; fourth, upper lobe of both lungs. I have had but very few cases where the middle lobe of the right lung was affected, and when this occurs it is generally due to pericarditis, endocarditis, or heart trouble of other forms. Double pneumonia is not a common occurrence unless it has complications such as broncho-pneumonia. The passing from one stage to another has no regularity of time. The diathesis of each case is the controlling factor in the evolution of the different stages. A lung may remain in the stage of red hepatization from three to seven days, but the natural order of things is from two to three days for each stage. We must bear in mind that in the stage of engorgement 24 to 36 hours may elapse before the physical signs develop, and we have nothing but the history and symptoms to guide us in our diagnosis. There is one question that I have not settled in my own mind, and that is if the exciting cause is the presence of pneumococci in the

blood how is it in the cases that immediately follow a severe injury of the lung?—and many cases are on record where this has occurred and the disease went through the different stages the same as where the cause was idiopathic.

Diagnosis.—In many typical cases the diagnosis seems free from any obscure points, and we arrive at a conclusion without any trouble. For instance, Mr. A. calls and says he wishes me to come and see his wife; says that she had a chill in the night, and is now burning up with a high fever. I call and find his statements to be true. By inspection I find a hurried breathing with perhaps a temperature of 103° by the thermometer and 25 or more respirations per minute. I find a creamy coated tongue with perhaps some irritation of the stomach; also I notice that one particular position is chosen to lie in, and when I ask the reason of this the answer is invariably, "Doctor, I cannot breathe so well when I lie on the other side." I begin to have my suspicions as to what is the trouble, but by inspection I continue my investigation, and find that my patient cannot take a full inspiration without coughing, and in many cases an increase of pain. On percussion in the early part of the disease there may be tympany due to a lack of pulmonary tension, and this is what I generally get if I see the patient within a few hours of the onset of the disease. But to return to my case, I ask the lady to take as long a breath as she can, and while she does this I place the palms of my hands gently over each lung and watch the movements of the lung through the act of expiration; and if I feel a tremulous movement as the air passes out of the lung I note whether it is in both lungs or one. If this tremulous movement is plain there is more evidence of inflammation of the vesicular walls, and the trembling movement is caused by these walls adhering as the air passes in and out. At this point if we carefully auscultate the lung we will get the fine crepitant rale that is produced by this sticking of the walls. The next morning I call to see Mr. A.'s wife and find her temperature is 104° . Respirations have increased to perhaps 26 or more. Pulse may be 120 per minute, full and hard. The physical signs begin to be developed, and we get some dullness on percussion over base of left lung, also vocal resonance is now heard, and many times vocal fremitus may be discovered by placing the hand over the affected lobe of the lung. The patient at this stage of the disease is more indifferent as to what occurs, yet there is clearness of mind. On the third morn-

ing I find my patient about the same as previous morning, only perhaps some weaker and also some changes in the physical signs. The vocal fremitus has somewhat increased and dullness on percussion is now very plain. These symptoms as a whole justify the conclusion that I have a plain case of pneumonia. On the fourth morning I find my patient with but little change in temperature, and the general symptoms are about the same as on previous morning, only perhaps some weaker; but in the physical signs there have been some changes. The harsh breathing through the bronchial tubes is becoming less, and this suggests the possible fact that the lungs are better able to receive more air. Also now the expectoration may commence to change from its previous character; also at this stage of the disease we find the urine heavily charged with urea, sometimes one ounce being passed in one day; and this occurring while the person is taking but little food would be proof that there is great waste of tissue at this stage of the disease, and tells us to get ready for the crisis that we must meet in a short time. The closer we keep ourselves associated with the morbid anatomy of this disease the nearer our treatment will be on a line of scientific principles. On the fifth morning I call to see Mrs. A., and find a great change in symptoms and signs. The temperature is 100° , the respirations are 20 per minute, the rales are not harsh, the pulse may not be over 80 per minute and not full and wiry. The coating on the tongue begins to moisten and become lighter in color. The expectoration becomes lighter in color and more liquid in consistency, due to the softening process that has taken place in the exudated matter of the air vesicles of the lung. The pain that has been prominent in the axilla is less, the difficult breathing is better, and the general inference drawn is that the crisis of the disease has commenced with gray hepatization and resolution in partnership, and I will chance my reputation in diagnosing case A as one of lobar pneumonia. But all cases do not come to us in such typical forms. Many are covered over with other symptoms that many times mislead us in our diagnosis and treatment, and we see our mistake later on, but have lost our best opportunities in giving treatment to our patient.

We will use Mr. B. to represent one of the many obscure cases that come to us in our every-day practice. Mr. B. calls and wishes to have a doctor come at once to see his child that is eight months old. On arriving we find

the child in spasms, also find that these spasms followed a long vomiting spell, and that the child is in a lost state between the spasms; find also considerable diarrhea, with a furred tongue that is red at the tip and edges. The breathing is hurried and there is great heat of skin with temperature of $101\frac{1}{2}^{\circ}$ and perhaps a pulse of 130 per minute. If the child be at breast the hurried breathing prevents the child from nursing, and a moaning cry may follow the effort to nurse. On auscultating there may be very fine crepitant rales heard at the end of inspiration, but prominent physical signs have not yet developed. The inspiration is short and the expiration long. On getting a history of this case we find that the child has never been strong; that the mother is from a consumptive family. On arriving on second morning no great difference is found in the general symptoms or signs, except the child is getting weaker and may refuse to nurse. On third morning some new features may develop. We may find bronchial breathing the leading feature. Possibly a little dullness over base of both lungs, but the vomiting has stopped and the child is in a state of apathy. On fourth morning the temperature may reach $103\frac{1}{2}^{\circ}$ and pulse may be 140 per minute, and marked dullness may be present over affected part of lungs. The respiration may be hurried and labored. The child nurses but little if any. On fifth morning no marked change has taken place except that the child is getting weaker and there is increased resonance over healthy part of the lungs. On sixth morning we have a repetition of previous day, with some new signs on the bulletin board. The child selects a certain position to lie in and does not want to be changed from this position; also changing position of child gives different physical signs as to points of dullness. This leads to the inference that there might possibly be an effusion in the pleural cavity, yet there is no bulging of the chest walls; also we may get at this stage of this case a deathly pallor, with cold hands and feet, due to cardiac failure, or we may have the cyanotic appearance of the lips and fingers, due to respiratory failure of the lungs, which would impede venous circulation. On seventh morning we find the child with temperature 100° and the respiration very weak, and the pulse hardly perceptible, and the cyanotic appearance more complete, showing that the venous blood barely passes from the right ventricle of the heart to the lung. This condition of the lung might produce dilatation of the right ventricle of the heart, and in many cases that

have recovered from pneumonia this has been the case. On eighth morning we find the child passing away from exhaustion. Now, what was the matter with this child? Did it have pneumonia? — meningitis? — broncho-pneumonia? — pleuro-pneumonia? — cerebro-spinal meningitis? — empyema? — emphysema? These are some of the stern realities that we meet in our all-around practice of medicine. The difficulty in this class of cases is that we are led astray by the early local symptoms that predominate while the physical signs are dormant, and therefore we have no fair chance to diagnose our case to a certainty at the beginning of this disease.

But we will try and diagnose this case by the plan of comparison in symptoms and signs. We will first compare this case with meningitis. In meningitis we have delirium, in this case we had delirium; in meningitis we have slow respirations, in this case rapid respirations; in meningitis we have a medium, interrupted pulse, in this case we have quick, full pulse; in meningitis we generally have constipation, in this case we had diarrhea; in meningitis we have high temperature, in this case we had high temperature; in meningitis we may have strabismus, in this case none; in meningitis we may have tenderness along the spinal column, in this case none. From this comparison we will take chances in throwing out meningitis in its acute form, though it may be simulated during the course of pneumonia.

We will next compare the case with broncho-pneumonia. In this comparison our difficulty may be greater than with meningitis, from the fact that they are more blended together in their character. In this case we had vomiting spasms, and tongue coated, with red edges and tip; in broncho-pneumonia we have all these symptoms and signs at the beginning of the disease. Broncho-pneumonia also generally attacks the weak children under two years. This case was of this character. In this case there was consolidation of the lower lobe of both lungs. This would be unusual in broncho-pneumonia, as the products of inflammation are diffuse and may be found in different parts of both lungs; in this case no typical course was marked. The same may be said of broncho-pneumonia. In this case consolidation was late, the same may be said of broncho-pneumonia. In this case resolution did not take place; of course in broncho-pneumonia resolution many times occurs, yet the hospital records show a heavy mortality in this form of the disease. For the present we will not throw out broncho-pneumonia in this case, but by comparison will notice the early symptoms of vomit-

ing and diarrhea with gastroenteritis. In this case there was no constant cramping of the bowels; there was no great thirst; there was no mucus discharge with a terrible odor; there were no great and sudden expulsions of gas; hence we will take chances in throwing out gastroenteritis in this case. Empyema will not be on the list. In empyema there is flatness over the whole lower half of both lungs and no rales are heard. This would be enough to exclude empyema, though this case is one in which empyema might be accepted for unresolved pneumonia, as resolution did not take place in this case. The next disease is pleurisy. In this disease we often have the purulent form, secondary to pneumonia. In this case, if you remember, on sixth morning the child selected its position and did not submit to changes at that stage of the disease. As I have said before, an effusion might have commenced, but the child did not live long enough to develop the pneumonia that had commenced. Now, in conclusion, I must aggregate my symptoms and signs in case 2 and draw my conclusions as to what is the matter. I will take chances in diagnosing it broncho-pneumonia of lower lobes of both lungs. If we make our diagnosis correct we have already found part of our treatment, and when we conform ourselves to this position in medicine, and feel the responsibility of our diagnosis, we will soon be treating diseases upon scientific principles, and not by routine.

I well remember when I was about 10 or 12 years old of my father sending for the doctor to come and see me, as I was sick with malarial fever. When the doctor came he looked me over and then commenced to dish out the medicine as though I was some rendering machine. After he had finished he told mother that she should give No. 1 so many times, and if that did not vomit me then to give No. 2 so many times, and if that did not vomit me to give me so much mustard in warm water. My hair began to raise; I was scared, and I said to the doctor, "I feel lots better." I thought if I could fool the old man he might divide the bill of fare, and that would take a great load off from my stomach. This doctor meant all right; he was an honest old soul; but he was not living in the twentieth century. He wanted to cleanse my stomach. The end he was seeking was all right, but the means he used were what bothered me.

In closing on the subject of diagnosing pneumonia, we cannot be too careful in our process; we should go slowly and carefully; note every physical sign and symptom that we get;

compare these with similar symptoms and signs of other diseases; get a complete history of every case; note the vital force and also the sanitary surroundings of each patient, and when we do these things we have paved the way to draw fair conclusions as to what is the disease of our patients.

Prognosis.—The prognosis of pneumonia in its various forms depends much on the conditions of each patient, and the surroundings, habits, and so forth; but as we cannot give each case its individual prognosis, we must get the aggregate prognosis from clinical reports in the different forms of this disease.

Lobar Pneumonia.—In this form with the adult, or child over three years old, there is but little danger to life. But if there be complications uniting with lobar-pneumonia then the outcome may be very grave. Also if lobar-pneumonia be secondary to measles or scarlet fever or any other contagious disease, the prognosis is unfavorable and a large percentage of such cases are fatal. It always gives me a great deal of anxiety when I get a case of pneumonia following measles or scarlet fever, from the fact that invariably I have to meet the disease in the form of broncho-pneumonia, which is quite fatal among children. Early convulsions do not imply necessarily a bad prognosis, and I would much rather see them in the first stage of the disease than in the third stage, from the fact that in the first stage they would be largely neurotic, while in the third stage they might mean exhaustion, toxemia, or the commencement of meningitis. Again, age of patient is a strong factor in fixing the gravity of the prognosis in this disease. The two extremes of life are far more fatal than the intermediate stages; also the prognosis of these cases is bad with the hard drinker; also a temperature above 105 degrees for several days adds to the gravity of the disease. Irregularity of pulse and respiration also are unfavorable symptoms, especially in third stage. Muttering delirium, cyanosis, rapid breathing, are all bad symptoms. Then the general conclusion on the prognosis of pneumonia might be as follows: In lobar-pneumonia, with patients in previous good health, the prognosis is good; in secondary pneumonia with other complications the prognosis is bad.

Treatment.—First. The sanitary surroundings are the first thing that should occupy our attention, for in the regulating of these things lies the groundwork of our success in the treatment of pneumonia in its various forms. We must not lose sight of the fact that it is a self-limited

disease; that all we can do is to watch the points of danger, as each case will suggest. Remember that it is not a name that we are treating, but the patient. Each case is a law unto itself, and no two cases can have the same precise line of treatment, from the fact that no two patients will have the same precise line of conditions; and when we realize these truths and act on them, then will we commence to treat diseases from scientific principles, and not by routine, as in days gone by. First, notice the room that our patient occupies; notice the size and location; notice whether it is a room where good ventilation and sunlight can be had, or whether it is a small room back in some dismal part of the house, where we many times find our patient. Good sunlight and good ventilation are two of our best remedies in pneumonia. Next, we should notice the cleanliness of the family, the amount of filth that we must contend with, or if fortune favors us with neatness and order how often we say to ourselves, "Well, thank the Lord I am in luck with this case!" Then, in view of these facts, select a south or southwest room, where plenty of sunlight may be had, and good ventilation. The next thing down the line of treatment is, perhaps, the manner of feeding our patient. This must not be lost sight of in this disease, for remember we have here a disease that produces a large amount of tissue waste from poisoned blood, and the best means in our hands to modify this process is in careful feeding. We must remember that the bile acids in infancy are deficient, and that this acid, with the aid of the pancreatic juice, is what emulsifies the fat in milk. Cow's milk contains more fat than the mother's milk, and when we are feeding milk to our infant patients in this disease we must keep all these physical facts in view, and hence we must dilute cow's milk at least one-half with boiled water in order to reduce the percentage of fat in each feeding. I do not believe in feeding too often; once in four hours is often enough; if we feed oftener than this there may be an irritation set up, and we lose the object that is sought, namely, strength of our patient. Many times we gain in the assimilation of milk by adding a little lime water to each feeding, or a little pepsin and bicarbonate of soda, or liquid peptones with beef juice. Each case will suggest the method to be taken. But by all means we should feed our patients as best we can in this disease from start to finish.

In going back to the philosophy of fever that I mentioned in the first part of this paper, there are some facts that may lead us to certain

lines of treatment in this disease. First, fever is made known by perverted secretions of the body in general; or, in other words, fever is fever by virtue of blood toxins that affect the natural functions of the several organs of the body. Now, the principal outlets for the poisons that accumulate in the body are the lungs, the bowels, the skin and the kidneys; and by the presence of these blood toxins the functions of these organs have been changed to an unnatural process of secretion and excretion. Then, if this be true, let us associate hydrotherapy with these pathological conditions, and see if we do not have good reasons for taking this plan of treatment; and the skin being one of the safety valves, so to speak, of the body, we will notice the effect of its being bathed. In the onset of this disease I commence with sponge baths in the order of No. 1 with temperature at perhaps 80 degrees, then follow immediately with No. 2 with temperature at 60 or lower, as I think the case will best bear. This can be done at 6 a. m. and at 6 p. m., and must be done under the cover, where the body cannot come in contact with cold air. After the bath the body should be wiped dry, and the chest wrapped with a single layer of soft cotton and covered with an oilsilk jacket. These baths should be given until the disease reaches its crisis. I have been more pleased with my baths in reducing temperature than with drug sedatives, and also pleased that I was not robbing Peter to pay Paul; or in other words, I did not have to make my patient weaker in order to reduce the fever. The philosophy of sedatives is that they paralyze to a certain extent the motor fibers of the coat of the arteries and lessen contraction of their walls, and hence lower the circulation but in no wise remove the cause; while with the baths the pores of the skin are kept open and hence the gateway is made for the toxins of the blood to pass off, and the cause is slowly being removed. The next question is the cold packs. Among some of our best writers there are different views as to the continuance of these packs. I have used them only in local points, and must say that I have had good results wherever they did not disturb the patient too much and were not continued too long. I do not believe in keeping an ice temperature next to the skin for too long a time in this disease, first for the reason that it may produce a shock to the system, and especially if the patient be very weak; second, continued cold at an ice temperature next to the skin causes a contraction of the capillary vessels, and this is not the physical condition desired in this disease. What we

want in pneumonia is a reasonably cool skin with a moist surface. This can be gotten best with the sponge baths, followed by light cotton covering with oilsilk jacket over cotton. This process causes to a certain extent a reaction on the part of the skin in performing its functions, and it is in this process that the skin excretes the toxins of the blood to a certain extent. Hence it is for these several reasons that I prefer the sponge baths to the ice pack in the treatment of pneumonia.

Next to consider are the bowels. If in the onset the tongue is covered with a creamy coat, I generally give one-tenth grain of calomel with bicarbonate of soda every hour until an action is produced. After this the bowels must be watched from a tentative standpoint. The brain may be involved in this disease, and when this is the case, and especially if it be prominent during the stage of red hepatization, then keep cold to the head and heat to the feet, and give internal stimulants as the case may suggest. But where we are tried to the extent of our ability is in tidying our patient through the stage of red hepatization; for remember that the best strength of our patient is spent and gone when they reach this stage of the disease. It is at this stage that the cardiac muscles have spent their best force; also the muscles of respiration are weak, and it seems as if the patient had nothing left for us to work with. If we keep in view this philosophy, that the more strength our patients had when this stage began, the better equipped they are to resist the prostrating effect of this stage of the disease, and the more we have labored to maintain the strength of our patient from the commencement of the disease the better are the patients' chances when they come to this stage; and hence strength should be our watch word from first to last in treating this disease, and we should do nothing that would serve to take any strength from our patient to any extent. If there be signs of collapse from heart failure, then we may use strychnia and digitalis, generally by hypodermic injections; or if there be signs of respiratory weakness we may use nitroglycerine, oxygen, etc., and in both cases use stimulants in some form, generally good brandy. In regard to drugs, when the baths fail to reduce the temperature, then sedatives, such as veratrum and others may be used in connection with the bathing; also carbonate of ammonia and aromatic spirits of ammonia may be used internally with brandy as stimulants through the critical period of pneumonia. There are many more things to say in regard to treatment

on the complications of pneumonia, but as that is not my subject I will close by saying that first, last, and all the time, keep your eye on the strength of your patient.

J. R. WILLIAMS, Secretary.

WAYNE COUNTY.

FEBRUARY PROGRAM.

GENERAL MEETINGS.

"Is the General Practitioner Fairly Paid?" by Dr. A. N. Collins.

"Non-Ethical Ethics," by Dr. D. S. Walmsley.

"The Physician as a Witness," by Mr. Samuel T. Douglas, member Detroit Board of Health.

"Medical Malpractice," by Dr. Wm. T. Lane.

"Starvation as a Therapeutic Agent," by Dr. Chas. Douglas.

"Cutaneous Manifestations of Syphilis," by Dr. A. E. Carrier.

"Syphilis of the Nervous System," by Dr. J. J. Marker.

SECTIONS.

"Gastro-Enterostomy, with Special Reference to the McGraw Elastic Ligature," (demonstrations and exhibition of specimens), by Dr. S. E. Sanderson.

"The Heart In Tuberculosis," by Dr. H. B. Baker.

SYMPOSIUM ON ALBUMINURIA OF PREGNANCY.

"Etiology, Pathology and Symptomatology," by Dr. H. W. Longyear.

"Eclampsia and Its Relations to Albuminuria," by Dr. J. H. Carstens.

"Gravidic Retinitis, With Illustrations," by Dr. Fleming Carrow, of Ann Arbor.

"Treatment," by Dr. C. G. Jennings.

"Neurasthenic Asthenopia," by Dr. L. J. Goux.

"The Enlarged Middle Turbinate," by Dr. S. G. Miner.

The Committee on Constitution and By-Laws made a report on March 5. Its chief recommendations were that nominations should be made two weeks prior to election; that elections should be by ballot, a poll being opened for that purpose; that a plurality, instead of a majority, should elect; that the election be on the last Thursday in May, instead of the first Thursday in October; that the fiscal year begin on the first Thursday in September, instead of October; that the annual dues be raised to five dollars. A short history of the medical societies of the county was compiled, showing that this Society has practically existed since 1819.

The Committee on Finance reported that it has raised two hundred dollars and one hundred and seventy-five dollars pledged. The committee having originally intended to raise eight hundred dollars, and having failed to do so, requested that it be discharged.

All money subscribed was voted to be returned, and a special assessment of one dollar was levied.

The Committee on Legislation reported in favor of the Nottingham bill which is before the Legislature.

"IS THE GENERAL PRACTITIONER FAIRLY PAID? IF NOT, WHY NOT?"

Extract of Paper by A. N. Collins.

The author believes the fault lies with the general practitioner himself. The lawyer demands a retainer's fee. Why should the physician not do likewise? His services are indispensable to the public, and still such magnanimity is unparalleled. The different grades in the profession may be catalogued as not paid, underpaid, paid, well paid, and highway robbery classes.

If a man is qualified to do special work he is entitled to better compensation than is he who is not so qualified. But to-day the latter class of practitioners is being eliminated, and in his place are men who are capable of doing good work. Then why should those equally qualified not receive just fees? The fault lies in the general practitioner. His chief blunders are that he fails to make a sufficient charge for the services rendered, and he neglects the enforcement of cash payments. The author's remedy is to start in by "charging a fair fee for your work, by advising your neighbor to do the same, by making a new system of dealing with your patients wherever you have been lax, all along the line; by supporting each other, instead of trying to build yourselves up at your neighbor's expense."

One of the abuses to be corrected by the general practitioner in order that his income may be increased is the infringement of his rights by the specialist. If a man proclaims his special field and expects to receive the support of the general practitioner, that man should confine his labor to that specialty. Life insurance examination is, the author says, one of the greatest abuses indulged in by the specialist. If such work does not belong to the general practitioner, what does? It rests with the general practitioner himself whether he will be fairly paid, independent and respected, or whether he will be a sort of high-toned beggar among men. Ask more and ye shall receive more; demand more and more shall be given unto you.

*GASTRO-ENTEROSTOMY, WITH SPECIAL
REFERENCE TO THE MCGRAW
ELASTIC LIGATURE.

S. EDWARD SANDERSON,
Detroit.

Gastro-enterostomy is an operation for the establishment of an anastomotic opening between the stomach and the intestine. Depending upon the portion of intestine selected, it is called gastro-duodenostomy, gastro-jejunosomy, gastro-ileostomy, etc. It is used in conditions where an obstruction occurs to the normal flow of gastric contents from the stomach into the intestine. Such conditions may be either benign or malignant. Of late it has been employed by some surgeons for the relief of gastropnoia. (*Vide* article by Dr. H. O. Walker in the *Journal of the American Medical Association*, Jan. 17, 1903.)

The first recorded case which I have found in the literature was done in 1881 by Dr. Anton Wolfler in Vienna. The report of the case is to be found in *Centralblatt für Chirurgie*, Nov. 12, 1881, and cited by Ashhurst in his *Encyclopedia of Surgery* published in 1884. Bilroth is spoken of by Ashhurst as having been the second to attempt the operation. The first operation was devised upon the spur of the moment in a case of cancer of the pylorus which at the time of operation proved to be impossible of removal. An incision was made in the greater curvature of the stomach and one in the small intestine as near the beginning of the jejunum as possible. The margins of the opening were sewed together, strict antiseptic precautions being used throughout, "except the spray." The wound healed by first intention; there was no rise of temperature and the patient showed marked improvement in his condition. Bilroth's case was also one of inoperable cancer of the pylorus. The operation was done in just the same way, under just as favorable conditions. The operation lasted only an hour; yet following the operation the patient was seized with biliary vomiting and died on the tenth day.

Many methods for performing the operation have been devised, some operators designing mechanical devices as aids, such as the Murphy button, Laplace forceps, Senn decalcified bone plate, the bobbin made of potato or sugar used by several operators, and the elastic ligature method of McGraw, while the operation has

been done many times with no mechanical aid whatever, as in the case of Wolfler already cited. The Connell suture has been successfully used. Of all the mechanical devices used the Murphy button seems to have met with the greatest favor in the hands of the most operators. It has the advantage of easy use with rapidity and thorough efficiency. But it has the decided disadvantage of being an unabsorbable foreign body, and of having the added disadvantage of not always being expelled in the feces, but of falling back into the stomach and remaining there indefinitely. For the latter reason Murphy devised a special oblong button which he has claimed is not subject to that objection.

McGraw began his experiments in 1889, 1890 and 1891, at first attempting to get an instrument that would fulfill all requirements. Quoting from his own words, he says in an article published in the *New York Medical Journal* for January 26, 1901: "My ingenuity was not equal to the task which I had undertaken, but I nevertheless hit upon a method of making intestinal anastomosis which is unequalled in the rapidity of its execution, its efficiency and its safety, although it does not accomplish its purpose until after the lapse of two or three days. This method is by the application of an elastic ligature binding the two viscera together and ultimately cutting its way through. I made many experiments on dogs and two on the human subject, when I was diverted from the method of my own invention by that ingenious device which has made the name of Murphy famous all over the world." * * * *

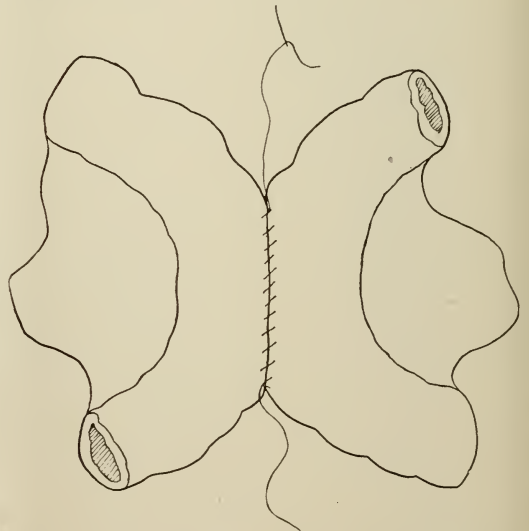


Fig. I. (Semi-diagrammatic). First step. Running suture of silk uniting serous surfaces. (*From drawing by Author.*)

*Read before the Surgical Section, Wayne County Medical Society, February 2, 1903.

The steps of the operation are as follows:

- (1) Opening of the abdomen.
- (2) The selection of the point (a) in the stomach and (b) in the intestine for the junction.
- (3) The first running suture of silk uniting the two serous surfaces.
- (4) The passing and tying of the elastic ligature.
- (5) Completing the running suture of silk.
- (6) Closing the abdomen.

The abdomen was opened by McGraw in his first cases as follows: An incision beginning an inch and a half above the umbilicus in the median line was carried transversely to the left about four inches. This severed the left rectus muscle and made the chances of hernia greater, but gave most easy access to the stomach. Later McGraw has used the median incision, which answers every purpose.

The portion of the stomach to be selected was formerly the anterior wall, which in some cases, on account of the sagging of the intestine and consequent obstruction, produced regurgitation of bile and bowel contents into the stomach. Later the posterior wall was selected and was reached through a slit in the mesocolon. I believe, however, the later operators choose the anterior wall and, with improved methods, find it very satisfactory. The point in the intestine to be chosen should be the jejunum as near the duodenum as practical. This is very important in order that the largest amount of intestine may be in the food circulation. Should the lower end of the ileum be chosen instead, death would surely follow from starvation, as the food would pass directly from the stomach into the large intestine. This point is not always easy to find, but can surely be located if the following method be adopted: The transverse colon is drawn out of the abdomen, and its mesocolon put upon the stretch, when if the finger be passed down from left to right, intestine will be found passing under the ligament of Treitz, which is jejunum at its beginning. Another point of importance is to have the peristaltic motion of both stomach and intestine in the same direction. For that reason it is necessary that a turn be made in the intestine.

Having selected the two points of approximation the assistant should hold the two viscera with serous surfaces approximated in a line parallel to the exact point where the opening is to be made and a running suture of silk is placed to firmly unite them for a distance of fully two inches. This suture should be secured at the beginning by a knot, and also at other

points, to prevent purse string contraction. In the intestine it should be as near the mesentery as possible. The two loose ends can now be held with forceps while the next step is taken.

Again I will quote from McGraw's article above mentioned: "A rubber cord two millimeters in diameter, ordinarily used for the ligature of piles, is to be preferred to all others on account of its smoothness, elasticity, and great tenacity. * * It may be drawn through the eye of a so-called worsted needle * * smaller than itself. This is a decided advantage, for the reason that it is important to make as small a hole as possible through the intestinal wall, and also to have the ligature not only to completely fill, but even to distend the hole so as to prevent any extravasation of feculent fluid. Now, by stretching the rubber during its passage and rendering it thin and small, it may easily be drawn after the needle, and its subsequent contraction will then largely increase its size and cause it to more than fill the orifice." The selection of the ligature is very important, as it is the one all-important feature in the operation; McGraw experimented upon a number of different kinds and sizes of ligature before he finally chose the one spoken of above. At first he cut the ligature into the lengths he wished and then shaved the end to a fine tapering point for insertion into the needle. However, there is a ligature manufactured by a firm in this city which answers every purpose, being thoroughly tested before being sold, and is made with tapering ends. This ligature can be thoroughly sterilized by boiling without being

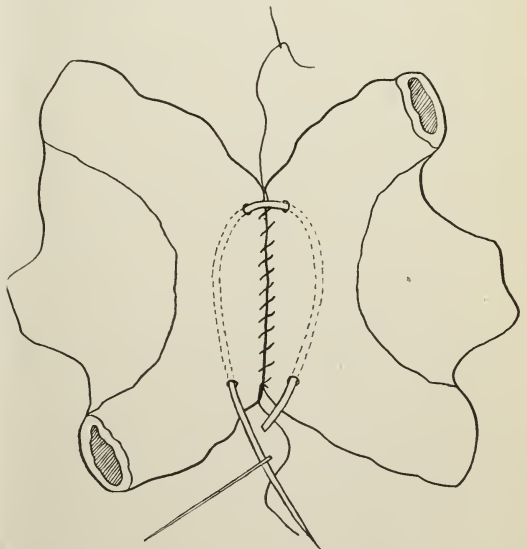


Fig. 2. (Semi-diagrammatic). Second step. Elastic ligature introduced, ready to tie. (From drawing by Author.)

impaired. It does, however, deteriorate with age so as to become entirely useless for the purpose desired. A cambric needle armed with six inches or more of the ligature is now passed through into the lumen of the gut in its long axis at a point farthest from the mesenteric attachment and out again so as to include about two or two and a half inches. It is then passed on through into the cavity of the stomach and made to emerge just opposite the point of entrance in the intestine. The two ends are then brought together and tied in a square knot with the additional security of a silk suture tied around the ligature to prevent its becoming untied. McGraw now makes only the first tie in the square knot, securing it with a firm surrounding tie of silk ligature, advocating that this is thoroughly sufficient and makes a much smaller knot to be covered.

Although a round needle is possibly the best kind, yet others can be used. I have found a Hagadorn much easier to use, but it has the disadvantage of making a much larger opening into the intestine and therefore one which is not so easily filled by the ligature.

In tying the ligature as much traction should be made as the ligature can well stand, for if it be too loosely tied the ligature will be much slower to cut through, thus lengthening the time before the communication is established between the stomach and intestine.

With the ligature tied and secured the running suture of silk should then be continued around the elastic knot to entirely surround and inclose it, thus burying it to cut its way through the tissues and enclosing it so that no fecal matter can escape into the peritoneal cavity. Nothing then remains but to close the abdomen. Some practical suggestions from the experimental work I have done on dogs in this:

The first dog I operated upon died. Upon post mortem I found septic peritonitis from faulty technique. There had been a leakage from the intestine as the running suture of silk had not been made secure enough. I have not since had the same thing happen.

In the first few cases I did not include enough surface in the ligature, thus making the opening too small.

I found the opening to become established in from three to five days. Let me here quote again from McGraw:

"Animal killed after twenty-four hours showed no change in the condition of the intestines operated on, except a partial obliteration of the folds, caused by a ligature, and an adhesion of

the adjacent peritoneal surfaces. No opening became as yet apparent at the seat of ligation. After forty-eight hours the intestines resumed their normal shape, all folds had disappeared, the adhesions had become firmer, and the rubber was seen to have slightly cut through the enclosed structures. At the end of seventy-two hours a free space usually appeared on each side of the ligature, through which water could be made to pass from one intestine into the other. The ligature still hung in the middle on uncut tissue. At the end of the fourth day the opening became complete, the ligature disappeared, and the anastomosis was accomplished. As the ligature cut through, the edges of the mucous membranes of each gut became glued together and united, and the result was a smoothed, healed edge all along the opening. The irritation caused by a rubber ligature in the peritoneum was just sufficient to cause adhesion of the surfaces with the intervention of hardly any appreciable amount of exudation. The length of the orifice formed was found to be equal to that of the tissue inclosed in the knot. Whether subsequent contraction with partial obliteration of the orifice, such as has happened after other methods of producing anastomosis, would follow in course of time, is as yet uncertain. Variations were occasionally found in the course described. I have seen the opening completed at the end of the third day, and have seen it incomplete at the end of the

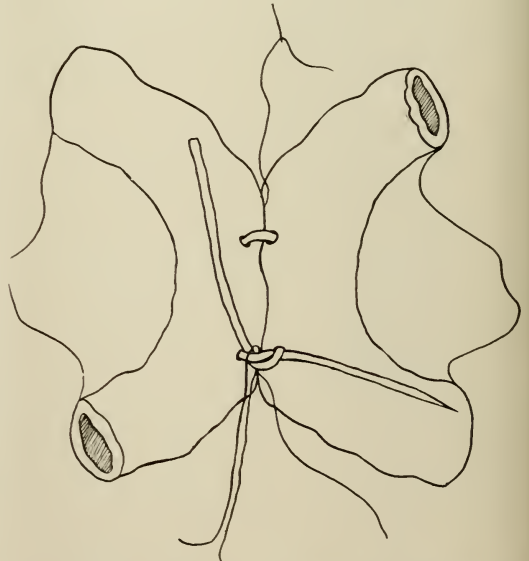


Fig. 3. (Semi-diagrammatic). Third step. Tie in ligature begun, surrounding ligature of strong silk in place ready to tie when elastic ligature is drawn tight. It then remains only to continue the running suture of silk around the elastic knot.

fifth; but in general, if the operation is done as I described it, the result will be as I have stated."

DISCUSSION.

F. B. WALKER.

The choice of method of gastro-intestinal or intestinal anastomosis naturally depends both on the adaptability of procedure and the ability of a

to seven days. But as the human intestine was much more delicate in structure, the ligature should cut through in from three to five days.

J. H. CARSTENS

Said that he had used the Murphy button for end-to-end anastomosis, also for lateral formerly, but had lately used the elastic ligature for all

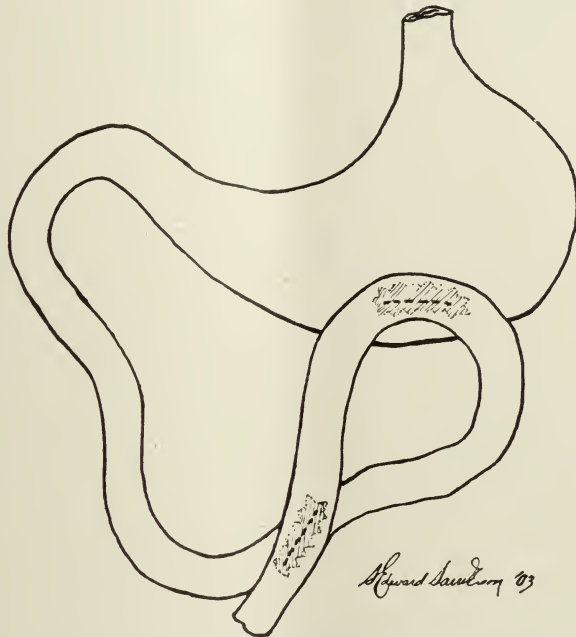


Fig. 4. (Diagramatic). Showing location for gastro-enterostomy and point for entero-enterostomy. Heavy dotted line indicates opening made by elastic ligature. Fine dotted line indicates running suture of silk. Shaded area indicates portion of approximated serous coat which becomes firmly united.

surgeon to use it. Of two equally good methods one would use that which is easiest of performance. The McGraw ligature is simple and at the same time practical. It is, however, a mechanical device like the Murphy button, and both will require some experience to use them. The result will depend upon the elasticity of the ligature and the manner in which it is tied. I have seen a diaphragm of uncut tissue after three weeks in a dog. Personally I like the suture method of anastomosis, which does not depend upon any mechanical device and which at the same time provides at once a permanent lumen. The McGraw ligature does, however, have its peculiar advantages, and will grow in popularity.

T. A. M'GRAW

Said that he had used it on thirty-five dogs without a single failure to cut through in from five

lateral anastomosis. He had used catgut to amplify the elastic ligature, but found that it gave way too soon, and wanted to make the special point that *silk should always be used*.

He had cases operated upon four and five years ago still living, and thinks it is a most excellent device.

WM. F. METCALF.

As a general principle in gastro-enterostomy, or in entero-enterostomy, that method is to be preferred in which no reliability has to be placed upon any mechanical device; that method in which the openings are made as large as needed and the serous surfaces sutured together. There is then no anxiety about the elastic ligatures not cutting through, nor about mechanical devices not passing away. I believe the McGraw ligature makes gastro-enterostomy easier, and is safe and

efficient when properly used. As suture material I prefer celluloid thread.

I have a case now at Harper Hospital, the treatment of which illustrates a number of points relative to the subject in general, and to the use of the McGraw ligature in particular. She entered Harper about two months ago. She had vomited every day for four years. In the beginning the vomitus was bloody. For a month before entering the hospital she had retained nothing in the stomach. Examination showed stomach greatly dilated, typhilitis extreme, and tumor in region of the gall-bladder. Examination of the blood after entering the hospital, December 12, showed 2,201,000 red corpuscles, 15 per cent. of haemoglobin, color index .34. December 24, 2,452,000 red, haemoglobin 25 per cent., color index .5. January 7, red 2,556,000, haemoglobin 30 per cent., color index .6. January 16, reds 3,518,000, haemoglobin 50 per cent., and color .71; and this improvement came entirely through rectal feeding.

I made an incision January 19, finding a hard tumor of the pylorus, with firm and extensive adhesions. I performed gastro-enterostomy by McGraw ligature, attaching the jejunum about eight inches from its duodenal junction to the posterior wall of the stomach. After anast. was complete I stitched two or three inches of the jejunum to the stomach wall toward the cardia to prevent the formation of vicious circle. In twenty-four hours the tympanitis had disappeared, the ligature having been tied so tight that it made an opening for the gas in a few hours. She is now sitting up, is ravenously hungry, and is eating and digesting a large quantity of solid food.

J. N. BELL,

It has been my privilege to witness the operation of gastro-jejunoscopy with the McGraw ligature, performed by Dr. J. H. Carstens, on one of my patients, a woman of 50 years of age, and later on to assist Dr. Hugh Mulheron in performing an autopsy on the same case.

It was found post mortem that the opening was barely large enough to admit the point of the little finger. The deduction to be made from this finding would be to take a good bite of about three inches in length with the ligature when doing the operation. The patient spoken of was relieved of her distressing pain and vomiting for about three months.

H. O. WALKER

Said he had used the method upon many cases

and considered it unequalled in the cases suited to its use.

HAL. C. WYMAN.

There are myriads, almost, of devices for uniting intestines. I believe in sutures. For gastro-enterostomy the McGraw elastic ligature, devised by and named for a distinguished citizen of Detroit, is the best of all the means offered for bringing about the desired result—a perfect blending of stomach and small intestine, with ample opening to transmit stomach contents. When the elastic ligature was first offered to the profession I used it in some cases of lateral anastomosis, but later abandoned and condemned it because it crumpled the bowel into such a small mass that I feared the opening from one channel to the other would not be large enough to carry normal intestinal stream.

The experiments submitted by Dr. Sanderson to-night demonstrate the usefulness of the elastic ligature generally for gastro-enterostomy, and show that my fears of insufficient opening were not well founded.

In closing, Dr. Sanderson said: In gastro-enterostomy, as in all other branches of surgery, many men have many methods, a surgeon using that method which in his hands has given best results. I believe that the method of McGraw stands in a class by itself, being the best method for most cases, and will come into far wider if not almost universal use in suitable cases as the technique becomes more familiarly and widely known.

To speak of vicious circle would open up such a wide field for discussion that I will here speak only of the best accepted method of preventing the complication, which is by taking the precaution to do entero-enterostomy between the efferent and afferent loops of intestine.

(See Fig. H.)

HUGH MULHERON, Secretary.

KALAMAZOO COUNTY.

The Kalamazoo County Medical Society met as guests of President C. H. McKain at Vicksburg on Thursday afternoon, March 26th, at 4 o'clock in the rooms of the Ladies' Library. Dr. H. W. Longyear, of Detroit, read a paper on "Tubercular Peritonitis," and the discussion was led by Dr. C. K. LaHuis, of Kalamazoo.

The society completed its organization at this meeting and an opportunity was given to the members to sign the constitution and by-laws. After the session lunch was served.

HERMAN OSTRANDER, Secretary.

Obituary

FRANKLIN B. GALBRAITH, 1840-1903.

Franklin B. Galbraith, M. D., was born in Sanilac county, Mich., near Port Huron, December 26, 1840. His entire life presented a striking example of perseverance, diligence and untiring devotion to knowledge; he was always an indefatigable worker, laboring not merely at work belonging to his own profession, but also with the utmost eagerness seeking and storing knowledge purely for the love of it. The result of his unwearied labors was the attainment of a prominent position among the members of his profession.

Dr. Galbraith was of substantial ancestry. His grandfather, John Galbraith, was born near Glasgow, Scotland. His father, Dr. John Galbraith, was a native of Canada, who for many years lived in Sanilac county, and there died in 1880. His mother, who bore the maiden name of Nancy Humphry, was of Canadian birth and Irish descent. She passed away in 1878, two years prior to the demise of her husband.

In his early youth Dr. Galbraith attended the schools of the vicinity, and at the age of thirteen years clerked in a store. When seventeen years old he entered the medical department of the State University at Ann Arbor, where he was graduated at the age of twenty-one years. In 1860 he went to New York and attended the College of Physicians and Surgeons, graduating in 1861. Immediately after graduating he commenced the practice of his profession at Lexington, this state, and continued there until October, when he was commissioned assistant surgeon of the Tenth Michigan Infantry. In April, 1862, he was sent to Tennessee.

On account of failing health, Dr. Galbraith retired and returned to Port Huron, and there took charge of the practice of Dr. C. M. Stockwell, who went into the army. In 1863 Dr. Galbraith was appointed Surgeon of the Board of Enrollment with headquarters at Pontiac. He was afterward commissioned as surgeon of the thirty-first regiment, which, however, did not go out as an organization, but was broken into fragments which went to replenish other organizations already in the field. The doctor was transferred to the Fourth Michigan Cavalry, and with them went to the front and participated in active warfare. When the war was nearly over he resigned his appointment, and coming home, located in Pontiac. Since settling here he devoted

his undivided attention to his profession, and built up an extensive and lucrative practice.

The doctor was an honored member of the State Medical Society and the American Medical Society. He was elected mayor of Pontiac three times on the Republican ticket, and his intelligent and faithful discharge of the duties of that office reflected great credit upon himself as well as upon his constituents. His election was considered by his friends a great triumph, for the city was at that time very strongly Democratic. Socially Dr. Galbraith belonged to Pontiac Lodge No. 21, F. & A. M., and the Loyal Legion. In 1889 he was chosen State Senator from the fourteenth senatorial district on the Republican ticket and was ever faithful to the interests of the people whom he represented.

The marriage of Dr. Galbraith and Miss Maria Smith, of Pontiac, was solemnized in 1865. Two children were born to them, Dr. Stuart and Grace, now wife of James H. Harris, superintendent of schools in Pontiac.

WILBUR C. WRIGHT, 1857-1902.

Dr. W. C. Wright, one of the most esteemed citizens of Unionville, died at his home Saturday morning, Dec. 29, 1902.

Dr. Wright was a noble man, an exemplary Christian, a progressive citizen, and one who was ever ready with his skill, his education or his money to assist any project that was for the betterment of his fellow men, his church or his town. He was a thorough and progressive student, a self-made man in every sense of the word, and his excellent advice, cheering smile and word will be missed nowhere more than by the school children. He was ever particularly interested in education and embraced every opportunity to encourage the young for habits of study and usefulness. He was a successful and skilled physician and enjoyed a very large and well paying practice.

Dr. Wilbur C. Wright was born in Antrim Township, Shiawassee County, Jan. 23, 1857, and was a son of Isaac and Elizabeth Wright. While a young boy he removed to St. Johns, where he received a high school education and graduated there in 1882. He followed the vocation of teaching for a while and then entered the State University at Ann Arbor, whence he graduated in 1887. That same year he came to Unionville and began the practice of his chosen profession. Three times he has been to New York and taken post-graduate courses for surgery, the eyes, nose and throat, and gynecology. In 1900 he went abroad and visited the leading countries and cities of Europe and attended the Paris Exposition.

Communications.

THE IDEAL HEALTH OFFICER.

THE EDITOR—I accepted appointment as a member of the Detroit Board of Health from Gov. Pingree on Feb. 21, 1899, which appointment was confirmed by the State Senate the fourteenth day of the month following, for the term ending February 28, 1903.

On March 15, 1899, certain thoughts of mine appeared in the Detroit Evening News concerning the workings of the Detroit Health Department, and the kind of man needed as Health Officer. Said thoughts later became my convictions, and were contained in my fixed policy; and were, viz.:

(a) Health Officer to be a clinical physician with executive ability, and to have had personal experience diagnosing contagious diseases, including smallpox, scarlet fever and diphtheria.

(b) Health Officer to examine *personally* suspicious or doubtful cases reported to the Department, and meet *personally* private physicians asking consultation thereon.

(c) Health Office to be operated on practical business principles, and without political coloring.

(d) Methods of Health Office to be up-to-date, but for every dollar of cost of maintenance the Department to obtain full value in practical results—all unnecessary expense to be eliminated.

(e) All Health Department work of a medical nature to be performed by the salaried physician employees of the city.

(f) Health Officer and all employees to give their entire time to the Department. Under no circumstances should persons on regular salary be paid extra compensation.

Spencer says: "Political life is healthy only in proportion as it is conscientious." I have endeavored faithfully to enforce the above policy, as well as all health laws and ordinances applicable to Detroit, with what success the official records of the Detroit Board of Health will show.

Respectfully, JOHN L. IRWIN.

Detroit, February 28th, 1903.

OSTEOPATHY AND THE LAW.

The method of treatment sailing under the flag of osteopathy is engaging considerable attention recently, especially because of Professor Lorenz's visit to this country, which has familiarized the public with the fact that massage and orthopedic treatment is only a branch of general medicine. I will quote from the third annual report of the committee of the American Medical Association on National Legislation, 1902, pages 57 and 59:

"In the month of January of this year, in the Legislature of the State of New York, there was introduced a bill in the Senate, entitled 'An Act regulating and legalizing the practice of osteopathy in the State of New York, and fixing penalties for the violation thereof.' * * * The objections to the osteopathy bill were summarized as follows:

"First—Osteopathy, so called, is an agent or method used in the treatment of disease, and should not be separated from the general practice of medicine.

"Second—Osteopathy should not be made a special branch of medicine by an act of the Legislature, but should come under the present State laws, which govern all the special branches as well as the general practice of medicine.

"Third—The Legislature should protect the public by denying the endorsement of the State to any person, as being capable of treating the diseases of the human body, unless such person can make a diagnosis of the condition of the human body, to do which requires a full knowledge of the science of medicine, including the use of drugs and other valuable therapeutic agents.

"Fourth—If the so-called osteopathic bill becomes a law, all candidates who fail to pass the regents' examinations to obtain a license to practice medicine in this State may in this State treat all diseases of the human body by holding a diploma from any regular osteopathic college in the United States—a privilege which a graduate from Harvard or Yale Medical College, for instance, does not enjoy.

"And finally, it would be much more right and reasonable for the Legislature to separate the special branches of real estate corporations and criminal law from the general practice of law and to establish for each of them a special examining board, so as to make it easier for the candidates for admission to the bar who desired to practice as specialists, than it would be for this Legislature, through this committee, to select one separate therapeutic agent used in the treatment of disease and separate it from the general practice of medicine, as a panacea for all diseases, at the request of those ephemeral enthusiasts who now ask for a special osteopathic examining board.

"After the hearing the Judiciary Committee killed the bill by a vote of 7 to 2."

Osteopathy is legalized in several States. The writer asked the authoritative sources of some States why osteopathy was legalized, and whether any steps were intended to be taken in regard to osteopathy. Of the answers received, the following may be quoted:

1. * * * "Replying to your letter of recent date, I have to say that the osteopaths have been recognized in this State. I inclose you herewith a copy of the law, so that you may see upon what conditions they are allowed to practice. It would be hard, I think, to give you the reasons for this legislation. I may say, however, that the vote was so close in the House of Representatives that the bill was passed by the vote of a ——— physician, and so close in the Senate that it was passed by the vote of a ——— physician. You can draw your own inference. I think it is a disgrace upon the State," etc.

2. * * * "By referring to Section 4403-f of the inclosed law you will note what recognition is given to osteopaths in the State of ———. You will also note that they are required to have the same preliminary requirements as physicians and to pass two examinations, one before an osteopathic examining committee appointed by this board, and the second one before this board on the subjects of anatomy, physiology, obstetrics and physical diagnosis, before they are permitted to practice in this State.

"No steps are being taken in ——— against illegally qualified osteopathic practitioners, but those who are found to be practicing without legal qualifications are promptly notified, and, if they continue to practice, are prosecuted.

"Personally, I am of the opinion that the osteopathic clause of the ——— law is a very good provision, since it does away with the cry of the laity that the physicians are attempting to shut out practitioners of osteopathy, and at the same time, by compelling the osteopath to pass rigid requirements, it insures that such persons will be safe practitioners if they are able to secure a certificate in the State. I believe that more can be accomplished by this method than by an attempt to arbitrarily shut out this class of practitioners," etc.

3. * * * "Your letter received this morning referring to osteopaths being licensed in this State. They simply have a little statutory law which grants them the right to practice medicine in the State of ———; but they do not come under the practice act of medicine, neither do the State Board of Health recognize them as doctors, and have no disposition to so recognize them, nor to place them in a position on the Board of Health where they might feel that they are doctors. We think that this is about the best disposition to make of them. Where a Board of Health recognizes them and examines them for license, then they feel that they are one of the medical fraternity and entitled to all of the rec-

ognition of the medical profession. We would be glad to give you any further information regarding the matter that you may desire," etc.

4. * * * "I enclose you a copy of our law. The osteopaths have a law of their own in this State, and they are exempted from the action of our law, as they use no medicine. In our State they are ignored, and are doing no good except in a few places where the profession advertises them. We treat them and speak of them as masseurs, and most of the communities refer to their so-called treatments as a "course of massaging." The only osteopath left in this county is now at one of our colleges studying medicine. In my opinion, the less they are noticed, except to refer to them as masseurs, the better. It is a fad similar to many others, and must have its day. It is far less dangerous than 'Christian Science,' 'Dowieism,' etc."

5. * * * "Osteopathy crept into our laws four years ago by a fluke. It was passed by the House as a 'joke,' with the expectation of its being killed in the Senate. The Senate passed it, and the Governor, who was in the last stages of consumption and promised relief by its votaries, signed it. Two years ago we tried to get it eliminated and our law brought up-to-date, but a powerful member of the Senate, as a method of revenge for failure to coerce its introducer to one of his schemes, emasculated the bill, and we came near losing our present law. The same Senator is still on deck, and threatens to 'do us' if we attempt anything at this session," etc.

6. * * * "Osteopathy has been recognized in ——— by the Legislature. You ask, Can I give a reason for it? Can you give a reason for the dense stupidity of a lot of country farmers, assuming to legislate on matters of medical science? I leave the question with you. I do not think any steps will be taken against it at this session of the Legislature," etc.

* * * "Our Legislature has passed an act legalizing the practice of osteopathy by the graduates of the Kirksville and Boston schools. It is said that the act was passed mainly by the efforts of certain influential men who had relatives practicing that cult. I don't know how true this report is, but know very strenuous opposition was made to its passage, and it is not likely that any great effort will be made for its repeal at present. After half a century of medical experience I have come to the conclusion that it is not the best way to suppress quacks by giving them gratuitous advertisement and allowing them to pose as martyrs. If the regulars are high-toned gentlemen and thoroughly competent physicians,

the charlatans soon find their level. If the regulars are half-educated, drunken, low-lived scandal mongers they ought not to have fostering legislation. If they are well-posted, efficient, conscientious and chivalrous men they generally don't need it.

"I have no reason to believe that the number of osteopaths is increasing in this State. There are none in this town, and the only one from here who has graduated from an osteopathic school, after practicing and lecturing in the west for two or three years, came and asked me what regular medical college I would recommend him to enter. He has abandoned osteopathy, I hear.

"Ever since adopting the medical vocation I have tried to promote harmony among our members and a high regard for the dignity of the profession. Our local club has welcomed the educated homeopaths, putting them on the committees and assigning papers to them the same as to the other members. For years I have not known of their violating any rule in our code. Now they rarely send away for counsel, but go to the local regulars for help in their difficult cases.

"Practice here is now much more pleasant than when I was a boy. Then every doctor had a chronic quarrel with his neighbor, professional reputation was low, and quackery flourished.

"Now, although we do not contest them, the eclectics, clairvoyants, magnetizers, etc., etc., have had a poor show in this place for many years," etc.

The foregoing is brought to the attention of the medical profession in Michigan with the purpose to furnish a basis for further thoughts and for unbiased and fair action when such should be demanded.

EMIL AMBERG, Detroit.

PROOFS SHOULD BE IMMEDIATELY READ AND RETURNED.

THE EDITOR—I am deeply mortified to read the report of my discussion of Dr. Hafford's paper on "Considerations of Some Cardiac Problems," printed in the March number, 1903. It is inaccurate in substance and in tone. I hereby warn any practitioner against following any suggestions embodied in this report.

I blame only myself, because I neglected to revise and return the proof which was courteously submitted for my correction.

Yours truly,

A. W. CRANE.

Kalamazoo, March 7, 1903.

[The editor sincerely regrets this occurrence, and would earnestly request that the members re-

turn at once, corrected, the proofs sent for revision. It is simply impossible for the editor to know whether the substance matter is correctly reported.]

FOR THE INFORMATION OF THE MEM- BERS GOING TO THE NEW ORLEANS MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The following communication was received by the Secretary of the State Society, and is published for the information of the members:

On account of the American Medical Association meeting to be held at New Orleans, May 5th to 8th, 1903, the *Wabash Railroad*, in connection with the Illinois Central Railroad, will make a rate of one fare (\$27.10), Detroit to New Orleans and return. Tickets on sale May 1, 2, 3, good for return within ten days. By depositing ticket with the joint agent not later than May 12th, and payment of fee of 50 cents, return limit of ticket may be extended to May 30th.

For members and their friends, the *Wabash* will run Pullman palace sleeping car, Detroit to New Orleans, without change, should there be a sufficient number of passengers to warrant, as per following:

ITINERARY.

DETROIT TO NEW ORLEANS VIA ST. LOUIS, MEMPHIS AND VICKSBURG.

Leave Detroit ..	7:40 a. m.	3:20 p. m.	2:10 a. m.
Arr. St. Louis..	7:15 p. m.	7:30 a. m.	2:00 p. m.
Lve. St. Louis..	10:30 p. m.	*7:20 a. m.	2:44 p. m.
Arr. Memphis..	8:20 a. m.	6:40 p. m.	12:10 a. m.
Lve. Memphis..	8:45 a. m.	7:10 p. m.	
Arr. Vicksburg.	6:05 p. m.	2:35 a. m.	
Lve. Vicksburg.	6:05 p. m.	2:35 a. m.	
Lve. Baton Rouge	2:55 a. m.	7:05 a. m.	
Arr. New Orleans	6:00 a. m.	9:50 a. m.	

*Connect at East St. Louis.

DETROIT TO NEW ORLEANS VIA ST. LOUIS AND MEM- PHIS.

Leave Detroit ..	7:40 a. m.	3:20 p. m.	2:10 a. m.
Arr. St. Louis..	7:15 p. m.	7:30 a. m.	2:00 p. m.
Lve. St. Louis..	10:30 p. m.	*7:20 a. m.	2:44 p. m.
Arr. Memphis .	8:30 a. m.	6:40 p. m.	12:10 a. m.
Lve. Memphis..	8:55 a. m.	7:00 p. m.	12:25 a. m.
Arr. New Orleans	7:55 p. m.	7:25 a. m.	11:25 a. m.

*Connect at East St. Louis.

For more detailed information, sleeping car accommodations, etc., call or write, Wm. Israel, T. P. A., Illinois Central R. R., No. 7 Fort Street West, Detroit; A. F. Wolfeschlager, Passenger and Ticket Agent, Wabash R. R., No. 9 Fort Street West, Detroit.

PROGRAM

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— OF THE —

38th Annual Meeting

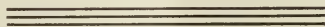
— OF THE —

Michigan State Medical ... Society ...



At the Masonic Temple,
Detroit, Mich.

Thursday and Friday,
June 11 and 12, 1903



THE COUNCIL

*Wednesday, June 10th, 1 o'clock P. M. Standard, at
Hotel Cadillac.*

*Thursday, June 11th, 4 o'clock P. M. Standard, at
Masonic Temple.*

*Friday, June 12th, 4 o'clock P. M. Standard, at
Masonic Temple.*

Organization and Election of Officers.

HOUSE OF DELEGATES

MASONIC TEMPLE

BY-LAWS—CHAPTER IV. Section I. Each Component County Society shall be entitled to send to the House of Delegates each year one delegate for every 50 members, and one for each major fraction thereof; but each County Society holding a charter

from this Society, which has made its annual report as provided in this Constitution and By-Laws, shall be entitled to one delegate.

PRELIMINARY MEETING

WEDNESDAY, JUNE 11TH
7.30 P. M. STANDARD

1. Call to order by the President
A. E. BULSON, Jackson.
2. Report of the Council
LEARTUS CONNOR, Detroit, Chairman.
3. Report of Committee on Legislation
B. D. HARISON, Sault Ste. Marie, Chairman.
4. Report of Auxiliary Committee of Committee on National Legislation
EMIL AMBERG, Detroit.
5. Report of Committee to petition the Legislature for an appropriation for the establishment of a properly equipped Sanitarium for the *Treatment of the Early Stages of Tuberculosis*
V. C. VAUGHAN, Ann Arbor, Chairman.

6. Report of the *Michigan Representatives in the House of Delegates* of the A. M. A.

H. O. WALKER, Detroit, Senior Member.

7. Miscellaneous Business

- a) Appointment of Committee on Nominations of 5 to nominate

1st, 2d, 3d, and 4th Vice-Pres.

4 Councilors for 2 years

4 " " 4 "

4 " " 6 "

2 Representatives in House of Delegates,
A. M. A., for 1 year

2 Representatives in House of Delegates,
A. M. A., for 2 years

To fix Place of Meeting for 1904

Adjournment.

FIRST DAY, THURSDAY, JUNE 11TH

8.30 A. M. STANDARD

Unfinished and Miscellaneous Business.

Adjournment to General Meeting.

SECOND DAY, FRIDAY, JUNE 12TH

12 O'CLOCK NOON STANDARD

1. Report of Committee on Nominations.
2. *Unfinished and Miscellaneous Business.*
Adjournment.

GENERAL MEETING

MASONIC TEMPLE

FIRST DAY, THURSDAY, JUNE 11TH

10 A. M. STANDARD

1. Call to order by the President
A. E. BULSON, Jackson.
2. Report of Committee on Arrangements
H. O. WALKER, Chairman.
3. Address of the President
A. E. BULSON, Jackson.

"Reorganization of the Medical Profession of Michigan, with Suggestions for the Future."

4. Oration on Surgery

F. W. ROBBINS, Detroit.

"The Surgeon: His Opportunities and Responsibilities."

5. Miscellaneous Business

- a) Nominations for President

Adjournment.

SECOND DAY, FRIDAY, JUNE 12TH

11 A. M. STANDARD

1. Unfinished Business.
2. Report from the House of Delegates.
3. Oration on General Medicine
I. H. NEFF, Pontiac.
"The Role of Suggestions in Therapeutics."
4. Oration on Obstetrics and Gynecology
F. A. GRAWN, Munising.
"Obstetrics in General Practice."
5. Miscellaneous Business.

At 12 o'clock Standard the result of the ballot for President will be announced.

Adjournment.

SECTION ON GENERAL MEDICINE

FIRST DAY, THURSDAY, JUNE 11TH

2 P. M. STANDARD

1. Report of a Case of Bilateral Cystic Kidney
H. E. RANDALL, Lapeer.
2. Reflex Disturbances from Eye-Strain
O. A. GRIFFIN, Ann Arbor.
3. Headache
JEANNE C. SOLIS, Ann Arbor.
4. The Essential Points of Distinction between Cerebral and Mental Disease
HIRAM A. WRIGHT, Detroit.
5. Some Clinical Observations on Defective Metabolism as a Factor in the Production of some Forms of Mental and Nervous Disease.
SAMUEL BELL, Detroit.
6. The Treatment of the Hypertrophies of the Lymphoid Ring
B. R. SHURLY, Detroit.

Adjournment.

SECOND DAY, FRIDAY, JUNE 12TH

8.30 A. M. STANDARD

1. Rectal Examination: Its Importance and Value in General Practice
LOUIS J. HIRSCHMAN, Detroit.
2. Skiascopy of the Heart
A. W. CRANE, Kalamazoo.
3. On Ultra-Microscopic Organisms
F. G. NOVY, Ann Arbor.
4. Modified Milk for the Babies of Detroit
COLLINS H. JOHNSTON, Grand Rapids.
5. Demonstration of Specimens from the Pathological Exhibit
A. S. WARTHIN, Ann Arbor.

Adjournment to General Meeting.

SECOND DAY, FRIDAY, JUNE 12TH

2 P. M. STANDARD

Election of Chairman, Secretary (for 2 years) and Orator of Section.

1. The Treatment of Flatulency
CHAS. D. AARON, Detroit.
2. The Etiology and Treatment of Hyperacidity of the Stomach Contents
DAVID M. COWIE, Ann Arbor.
3. The Management of Small-Pox in Houghton County, with Report of 280 Cases
W. H. MATCHETTE, Hancock.
4. Prevention of Gynæcic Evils
J. A. PORTER, Brooklyn.
5. Differential Diagnosis of Typhoid Fever
W. A. FERGUSON, Sturgis.
6. Some Considerations upon Infant Feeding
ALEX. M. CAMPBELL, Grand Rapids.
7. Hyperemesis Gravidarum
LEO BREISACHER, Detroit.
8. Itching: Its Significance as an Exciting Factor. Measures used for its Relief
ANDREW P. BIDDLE, Detroit.

Adjournment.

SECTION ON SURGERY, OPHTHAMOLOGY AND OTOTOLOGY

FIRST DAY, THURSDAY, JUNE 11TH

2 P. M. STANDARD

1. Excision of Hemorrhoids
WM. L. DICKINSON, Saginaw.

2. A New Procedure for Avoiding Infection After Operation for Cataract
WALTER R. PARKER, Detroit.
 3. The Omentum
W. H. HAUGHEY, Battle Creek.
 4. The Climacteric Tumors of the Breast
T. A. MCGRAW, Detroit.
 5. The Epiphyses from a Radiographic Standpoint (Illustrated by Lantern Slides)
PRESTON M. HICKEY, Detroit.
- Adjournment.*

SECOND DAY, FRIDAY, JUNE 12TH

8.30 A. M. STANDARD

1. Electro-physics and their Application to the Scientific Treatment of Disease
C. L. BARBER, Lansing.
2. Report of Two Cases of Cancer of the Breast occurring in Women under twenty-five years of age
W. A. SPITZLEY, Detroit.
3. The Bougie-Catheter: An Apparatus for Use in Genito-Urinary Surgery
S. C. GRAVES, Grand Rapids.
4. Surgery of the Mediastinum; with Report of the Successful Removal of a Tumor from the Anterior Mediastinum
H. O. WALKER, Detroit.

Adjournment to General Meeting.

SECOND DAY, FRIDAY, JUNE 12TH

2 P. M. STANDARD

Election of Chairman, Secretary (for 2 years) and Orator of Section.

1. Only a Drop of Pus
F. J. W. MAGUIRE, Detroit.
 2. Report of Five Rare Abdominal Cases:
a) Rupture—Tubal Pregnancy (two cases)
b) Resection of Intestine
c) Caesarian Section
d) Gastrostomy
I. N. BRAINERD, Alma.
 3. Contribution to the Surgery of the Knee-joint
MAX BALLIN, Detroit.
 4. Railway Injury to the Pelvis with Laceration of the Urethra
RALPH H. SPENCER, Grand Rapids.
 5. Comparisons in Technic of Gastro-Enterostomy with Description of the McGraw Elastic Ligature
S. E. SANDERSON, Detroit.
 6. Abuse of Inflation and Massage of the Middle Ear
EMIL AMBERG, Detroit.
- Adjournment.*

SECTION ON OBSTETRICS AND GYNECOLOGY

FIRST DAY, THURSDAY, JUNE 11TH

2 P. M. STANDARD

1. The Lacerated Cervix Uteri: Amputation or Trachelorrhophy.—Which?
H. WELLINGTON YATES, Detroit.
2. Prolapse of Uterus, Bladder and Vagina
J. G. LYND, Ann Arbor.
3. Ectopic Gestation with Report of Cases
WM. F. METCALF, Detroit.
4. Fibromata of the Vulva with Report of Case
T. S. BURR, Ann Arbor.
5. Ovarian Dermoids
R. E. BALCH, Kalamazoo.

Adjournment.

SECOND DAY, FRIDAY, JUNE 12TH

8:30 A. M. STANDARD

1. Dilatation and Curettage
W. H. MORLEY, Ann Arbor.
2. A Case of Streptococcic-puerperal Infection, successfully treated, in which Serum Therapy was used
H. W. LONGYEAR, Detroit.
3. Removal of Appendix during Abdominal Section
J. H. CARSTENS, Detroit.
4. Uterine Fibroma as a Complication of Pregnancy
REUBEN PETERSON, Ann Arbor.

Adjournment to General Meeting.

SECOND DAY, THURSDAY, JUNE 12TH

2 P. M. STANDARD

Election of Chairman, Secretary (for 2 years) and Orator of Section

1. The Sequelae of Lacerations of the Cervix
R. L. MORSE, Ann Arbor.
2. The Value of Conservative Operations on the Uterus and Appendices
W. P. MANTON, Detroit.
3. Endometritis—Both from a Surgical and Medical Standpoint
O. S. PHELPS, Battle Creek.
4. A Study in Cases illustrating points of Diagnosis in obscure Appendicular Diseases and others simulating Appendicitis
H. W. LONGYEAR, Detroit.

5. A Study of some difficulties in the use of the Obstetric Forceps

JAMES E. DAVIS, Detroit.

Adjournment.

OFFICERS OF THE SOCIETY

President—A. E. BULSON, - - - - Jackson.
Vice-Presidents—C. J. WILLSON, Flint; A. W. CRANE, Kalamazoo; W. K. WEST, Calumet; H. B. GARNER, Traverse City.
Secretary—A. P. BIDDLE, - - - - Detroit.
Assistant Secretary—GUY L. CONNOR, - - - - Detroit.
Treasurer—CHAS. E. HOOKER, - - - - Grand Rapids.

OFFICERS OF SECTIONS

General Medicine—GEO. F. BUTLER, Alma, *Chairman*; WILLIS S. ANDERSON, Detroit, *Secretary*; I. N. NEFF, Pontiac, *Orator*.
Surgery, Ophthalmology and Otology—K. GUNSOLUS, Detroit, *Chairman*; W. A. SPITZLEY, Detroit, *Secretary*; F. W. ROBBINS, Detroit, *Orator*.
Obstetrics and Gynecology—R. R. SMITH, Grand Rapids, *Chairman*; C. K. LAHUIS, Kalamazoo, *Secretary*; F. A. CRAWN, Munising, *Orator*.

COUNCIL

1. LEARTUS CONNOR, Detroit, *Chairman*.
2. N. H. WILLIAMS, Jackson.
3. W. H. HAUGHEY, Battle Creek, *Secretary*.
4. G. W. LOWRY, Hastings.
5. J. B. WHINERY, Grand Rapids.
6. C. B. BURR, Flint.
7. OLIVER STEWART, Port Huron.
8. S. I. SMALL, Saginaw.
9. B. H. McMULLEN, Cadillac.
10. H. B. LANDON, Bay City.
11. W. T. DODGE, Big Rapids.
12. THEO. A. FELCH, Ishpeming.

HOUSE OF DELEGATES

Allegan Co.....M. CHASE, of Otsego.
Alpena Co.....D. A. CAMERON, of Alpena.
Barry Co.....D. E. FULLER, of Hastings.
Bay Co.....J. W. HAUXHURST, of W. Bay City.
Berrien Co.....W. L. WILSON, of St. Joseph.
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Calhoun Co.....A. W. ALVORD, of Battle Creek.
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Wexford Co.....	C. E. MILLER, of Cadillac.

REPRESENTATIVES IN THE HOUSE OF DELEGATES
OF THE AMERICAN MEDICAL ASSOCIATION

- H. O. WALKER, Detroit.
- V. C. VAUGHAN, Ann Arbor.
- THEO. A. FELCH, Ishpeming.
- J. B. GRISWOLD, Grand Rapids.

SPECIAL COMMITTEES

COMMITTEE ON ARRANGEMENTS

- H. O. WALKER, Detroit, *Chairman*.
- E. L. SHURLY, Detroit.
- A. D. HOLMES, Detroit
- GUY L. CONNOR, Detroit.
- ALLEN D. McLEAN, Detroit.

AUXILIARY COMMITTEE TO COMMITTEE ON NATIONAL
LEGISLATION, AMERICAN MEDICAL ASSOCIATION

- EMIL AMBERG, Detroit.
- To *Petition the Legislature for an Appropriation for the Establishment of a properly equipped Sanitarium for the Treatment of the Early Stages of Tuberculosis:*
- V. C. VAUGHAN, Ann Arbor, *Chairman*,
- H. B. BAKER, Lansing.
- L. W. BLISS, Saginaw.
- C. G. JENNINGS, Detroit.

COMMITTEE ON LEGISLATION

- B. D. HARISON, Sault Ste. Marie, *Chairman*.
- GEORGE F. RANNEY, Lansing.
- BION WHELAN, Hillsdale.

ENTERTAINMENTS

The Profession of Detroit will make ample provisions for the comfort and entertainment of the visiting members. Due notice will be given.

HOTELS

- Cadillac (Headquarters.)*
- Russell House.*
- Normandie.*
- Griswold.*

MISCELLANEOUS

All Meetings are held on Central Standard Time at the Masonic Temple, cor. Lafayette Ave. and First Street.

The *Exhibits* will be found on the top floor (the large Drill Hall) of the Masonic Temple.—Good Elevator service.

All meetings will be called to order promptly on time.

Each paper is limited to 15 minutes; each discussion to five minutes.

Each member in attendance shall enter his name in the Registration Book, indicating the County Society of which he is a member. *Please do not fail to register upon arrival at the Masonic Temple.*

Only Members who are registered are entitled to vote.

The ballot box for the election of *President* will be found at the Masonic Temple at the place of the General Meetings. The polls close at 12 o'clock noon, Standard, Friday, June 12th.

BY-LAWS—CHAPTER III, SECTION 5.

All papers read before the Society shall be its property. Each paper read shall be deposited immediately with the Secretary, but the author may also publish the same in any reputable journal not published in this State, provided the printed article bears the statement that it was "read before the Michigan State Medical Society."

HOTEL CADILLAC, Headquarters

REDUCED RAILROAD FARES

Excursion fares from all points in Michigan, except from local points on the Main Line of the M. C. R. R. and L. S. & M. S. Ry., from which the rate of fare is two cents per mile, have been granted for persons attending the meeting of the Michigan State Medical Society to be held at Detroit, June 11-12, upon the following conditions:

First. That *one hundred or more persons*, holding properly executed certificates of standard form, attend the meeting.

Second. Each person desiring the excursion rate must purchase a *first-class ticket to Detroit* for which he or she will pay the regular tariff fare of not less than 75 cents, and upon request, the *ticket agent* will issue a *printed certificate of purchase*.

Third. If through tickets cannot be procured at the starting point, parties will purchase to the nearest point where such through ticket can be obtained, and there purchase through to place of

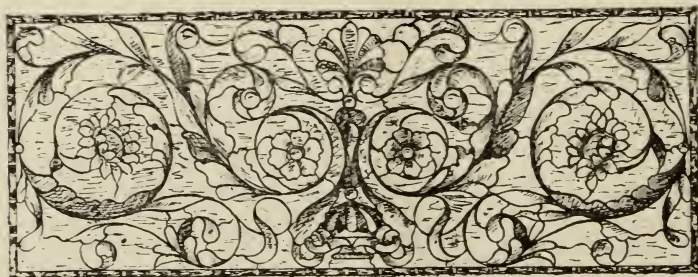
meeting, requesting a *Certificate from the Ticket Agent at the point where each purchase is made*.

Fourth. Tickets for the return journey will be sold by the Ticket Agent at the place of meeting at *one-third the first-class limited fare* only to those holding *Certificates signed by the Ticket Agent* at point where through ticket to place of meeting was purchased, countersigned by *signature written in Ink by the Assistant Secretary of the Society*, certifying that the holder has been regular in attendance at the meeting, and signed and stamped by the *Special Agent of the Michigan Passenger Association*.

Fifth. Tickets for return journey will be furnished only on Certificates procured not more than *three days before the meeting assembles*; *no stop-over privileges being allowed on tickets sold at less than regular unlimited fares*. *Certificates will not be honored unless presented within three days after the adjournment of the meeting*.

"No refund of fare can be expected because of failure of the parties to obtain Certificates."

A charge of 25 cents will be made at the meeting by Special Agent for each certificate issued by him.



The Journal of the Michigan State Medical Society

The Official Organ of the State and County Societies of Michigan

Volume II
Number 5

DETROIT, MAY, 1903

Subscription, \$2 per Year
Single Copies, 20 Cents

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Original Articles

THE TECHNIQUE OF SYMPHYSIOTOMY WITH REPORT OF A CASE.*

FRANK A. GRAWN,
Munising.

A clear understanding of the technique of symphysiotomy, as of any other surgical operation, must find its foundation in a thorough comprehension of the anatomy of the parts concerned. It is assumed that the construction of the pubic symphysis, and the sacro-iliac articulation, is sufficiently well known to require no description at this time. There are two regions, however, involved in this operation, that are probably not so generally understood: the prevesical space or cavum Retzii, and the deep perineal fasciæ.

*Read before the Section on Obstetrics and Gynecology, Michigan State Medical Society, June, 1902.

M. L. Harris, in the November Journal of Obstetrics, 1894, maintains that the most serious complications and sequelæ are the result of tearing the fasciæ when the pubic bones are too widely or too forcibly separated. He also describes this region and the important structures that bear a relation to it.

The deep perineal fascia, briefly considered, is a firm, fibrous membrane, closing in the anterior portion of the pelvic outlet. It is about an inch and a half in depth, with its apex directed forward, and the base backward toward the rectum. It is attached anteriorly to the sub-pubic ligament and pubic symphysis; laterally to the ischio-pubic rami; and posteriorly to the central tendinous point of the perineum. It consists of two layers, superficial and deep. The superficial layer is a continuation of the deep layer of the superficial fascia, and the deep layer is derived from the obturator fascia. This fascia in the female is not so strong as in the male. It is divided in the median

line by the aperture for the vagina, and perforated in front of this by the urethra and dorsal vein of the clitoris.

The structures resting on the deep fascia between the deep layer of the superficial fascia and the superficial layer of the deep, are the corpora cavernosa clitoridis, the erector clitoridis muscles, and the bulbi vestibuli. Between the two layers of the deep fascia, we have the sub-pubic ligament, the dorsal vein of the clitoris, the membranous urethra, compressor urethrae muscle, glands of Bartholin and their ducts, the pudic vessels, the dorsal nerve of the clitoris, the artery of the bulbi vestibuli, and a plexus of veins.

The importance of this fascia in relation to the operation of symphysiotomy is that if the pubic bones are separated beyond a certain point during delivery, this fibrous membrane is liable to rupture. The laceration would probably occur at the weakest point, in the line of the perforations, and therefore would involve the structures that pass through the fasciæ—veins, clitoris, urethra and vagina. The tearing of these structures causes the most serious complications and sequelæ, such as hemorrhage, sepsis, urinary fistulæ, and incontinence of urine.

The cavum Retzii is formed as follows: The sheath of the rectus muscle, about a third of the distance from the umbilicus to the pubes, passes in front of this muscle, and thus the semi-lunar fold of Douglas is formed posteriorly. Below this fold the transversalis fascia divides into two layers, the anterior layer of which passes down behind the rectus to the symphysis, while the posterior layer passes over the bladder. The space between these two layers is known as the prevesical space, or cavum Retzii. The space extends later-

ally nearly to the epigastric arteries. This space is of importance: 1. Because through it, operations on the bladder and pubic region are possible, without opening into the free peritoneal cavity. 2. Microbic infection of the loose connective tissue in this space may cause a suppurative inflammation and abscess formation and a resulting ectoperitonitis. 3. Hemorrhage may take place into this cavity and burrow in the direction of least resistance.

Technique.

The patient is prepared as for an abdominal operation. The pubes, after being shaved, the abdomen, external genitals, vagina, and thighs are subjected to a thorough mechanical and chemical disinfection. Before this preparation is carried out, the bladder should be emptied and a metallic catheter retained or inserted later to depress the urethra out of reach of the knife as the pubic symphysis is being severed.

The patient is placed on a table with the thighs flexed and slightly everted. Two assistants must be at hand to support the thighs later in the operation. An assistant for administering the anæsthetic is also required. Chloroform for obvious reasons is the best anæsthetic.

When all is in readiness, the patient completely anæsthetized, an incision is made, beginning about $3\frac{1}{2}$ centimeters above the pubic symphysis and ending just above the clitoris, directly in the median line. The structures divided in the incision are the skin, superficial fascia, and the anterior ligaments of the joint.

The next step in the operation is the introduction of the index finger of the left hand between the pyramidalis and recti muscles into the cavum Retzii or preves-

ical space. The finger is used in this space for blunt dissection in separating the bladder and peritoneum from the posterior surface of the symphysis, should the latter descend so low in being reflected from the summit of the bladder. The symphysis is divided from above downward and backward with an ordinary scalpel. (Special knives for severing the joint have been devised by various operators.) The index finger may be retained back of the pubic symphysis or a metallic director curved on the flat may be used to protect the underlying structures while the symphysis is being divided.

The two assistants, one on each side of the patient, should support the thighs and sides of the pelvis while the joint is being severed in order to guard against a too great separation of the pubic bones.

It will be noticed as soon as the cartilage of the joint is divided, the pubic bones separate about one centimeter, being prevented from separating farther by the sub-pubic ligament and deep perineal fascia.

Instead of cutting the sub-pubic ligament, as many operators do, Harris conceived the idea of preserving this structure, thus lessening the danger of lacerating the deep perineal fascia and some of the structures that pass through it, in case the pubic bones should be too widely or too forcibly separated during delivery. The sub-pubic ligament and deep fascia should be carefully separated from the surface of the pubes by a blunt-pointed bistoury, under guidance of the finger, closely following the bone on each side. After this ligament is separated it will be found that the triangular ligament is no longer tense, and that the pubic bones have separated from five to seven centimeters.

This, Harris maintains, is the most important step in the operation. If the ligament and fascia are carefully detached from the bone all danger of hemorrhage and laceration of the soft tissues will be completely avoided. When this part of the operation of detaching the sub-pubic ligament is completed, any slight hemorrhage should be controlled and the wound protected by an antiseptic gauze compress.

The two assistants who have been supporting the sides of the pelvis and thighs while the joint was being incised, must also support these parts carefully, under guidance of the operator, during delivery.

Most authorities are of the opinion that delivery should be accomplished immediately after severing the joint. The operator must be certain that dilatation of the cervix is as nearly complete as possible. If the natural forces have not secured a sufficient dilatation, the manual method or the use of rubber bags should be employed to accomplish this end.

During delivery with the forceps there is a natural tendency of the anterior cervix, vagina, and bladder to drag down in advance of the head. This is caused by the loss of support that these parts normally have, on account of the separation of the pubic bones. When these structures drag down below the pubes as traction is being made, they should be carefully pushed back and the head delivered through the cervix. If the cervix is not sufficiently dilated and these structures pushed back, there may be separation of these parts from their post-symphysial attachments, thus causing quite extensive lacerations and hemorrhage.

The separation of the pubes also alters the normal mechanism as to rotation.

There is a tendency of the head to remain in transverse position. Anterior rotation of the occiput can usually be brought about by proper use of the forceps.

After delivery of the child and completion of the third stage the operation wound remains to be taken care of. Regarding the after-treatment of the wound it may be said that most Germans advocate suturing the bones with silver wire. The French and Italians and most Americans do not favor the use of silver wire or any other kind of suture.

Hunter Robb, in the American Text-book of Obstetrics, describes the suturing of the fibrous coverings and muscular insertions including the periosteum, using strong silk, silver wire, or silk-worm gut. These sutures are tied in the median line, cut short and buried.

Judging from the literature on the subject and my limited experience, I believe that, if the conditions are at all favorable, a good result may be obtained without resorting to the use of sutures. The indications of the after-treatment are to give the parts rest and keep the pubic bones in uninterrupted apposition, until complete union takes place.

E. A. Ayres, in the March number of the Journal of the American Medical Association, in an article on Symphysiotomy gives some requirements in the after-treatment to secure the surest and best results. They are as follows: 1. Constant apposition of the pubic bones with even coaptation, but without compression. 2. Ability of the patient to empty the bowels and bladder without disturbance of the pubic joint, and ease of cleansing the genital and anal regions. 3. Freedom from restraint of the body above the pelvis, and of the limbs, whereby lactation can be performed

and the great discomfort of prolonged restraint avoided. 4. The avoidance of bed sores.

Various methods of immobilization of the pelvis are employed after the operation. Adhesive strips are made use of by some, and sand bags by others. The u-shaped hammock of E. A. Ayers seems to me the best to meet all requirements. It is simple of construction and could be made by any physician if the occasion for its use should arise. I shall not take up your time with its description. Cuts and description may be found in the American Text Book of Obstetrics.

Report of a Case.

(I)

February 22nd, 1899, Mrs. A. J., aged thirty-seven, married one year, primipara, date of last menstruation, May 28, 1898, began to suffer labor pains. A midwife was called, but when, after forty-eight hours the birth had not taken place, she gave up the case and I was called to take charge. The patient was found to be comparatively free from pain at the time, but had suffered intensely and was greatly exhausted.

(II)

On inspection the abdomen was found pendulous and slightly asymmetrical. Palpation revealed the smooth surface of the back of the child to the left, and at the lower foetal pole the globular outline of the head above the brim. The breech was palpable at the upper pole and the lower extremities were to the right. Feeble foetal heart-sounds could be heard midway between the umbilicus and the anterior superior spine of the ileum.

On digital examination, the cervix was found dilated to about the size of a silver dollar, and the membranes were ruptured. Diagnosis of presentation L. O. A.

The true conjugate diameter from sacral promontory to sub-pubic ligament obtained by the digital method was approximately seven cm.

Placing the patient on a table in the Walcher position, I was able to make a high forceps application. Intermittent traction was made in line of the axis of the pelvis but without result. The forceps were applied an hour later, after the patient had obtained some rest and nourishment, with the same result as before: no descent of the head.

We were thirty miles from another physician and forty from a trained nurse. Not having been informed of the nature of the case when sent for, I was but poorly prepared for what was before me, my suitable instruments consisting of only a scalpel, two pairs of hæmostatic forceps, and a bistoury, and all but one ounce of the chloroform had been used during the application of the forceps. The woman was now in fearful agony, screaming and praying for help; the relatives were frightened, but willing that I should do what seemed best. Rupture of the uterus or complete exhaustion seemed imminent. Something had to be done at once, and symphysiotomy appealed to me as being the only operation under the circumstances.

At midnight, by the light of a small kerosene lamp, and the aid of the husband and brother of the patient, but with the usual antiseptic precautions and preparation of the patient, the operation was performed as nearly as possible, under the existing conditions, according to the technique above described. A well developed male child was born, but in spite of all efforts of resuscitation breathed but a short

time. The woman endured the ordeal very well, although the chloroform lasted only during the incision through the skin, and the rest of the operation was completed without anæsthetic.

Twenty-four hours later a temperature of 101° F. appeared, probably because of the manipulations of the midwife, and the application of the forceps. There was also a very offensive discharge and it was found that the vagina was slightly torn and these lacerations were infected. These disturbances yielded readily to treatment.

Shortly after, the patient complained of incontinence of urine. A vesico-vaginal fistula had formed, caused, I think, by prolonged pressure of the head during labor upon the soft tissue against the pubic bones, and the consequent necrosis of those tissues. The woman was unwilling to submit to an operation for this and still suffers from the lesion.

Regarding the patient's pelvic deformity I learned later from her that she had some disease of the osseous system during infancy as a result of which she was not able to walk until she was five years of age. The family and personal history are good outside of the trouble above referred to. The external pelvic measurements obtained after the operation were: External conjugate diameter, 17 cm. or 6.7 in.; interspinal, 29 cm. or 11.4 in.; intercrystal, 30 cm. or 11.8 in.; bistrochanteric, 34 cm. or 13.38 in.

The patient states that her surroundings were bad during infancy and that she was brought up on an artificial diet. She also said that the ends of some of the long bones were large. The early disease was probably rachitis and was responsible for her pelvic deformity.

DISCUSSION.

W. P. MANTON, DETROIT: This paper is one of great interest, and I think the doctor is to be congratulated upon the admirable manner in which he conducted the case under very trying circumstances.

The operation of symphysiotomy is evidently going out and is indicated in few instances except in cases like that reported by the doctor.

It is applicable in only a very limited number of cases. Where the antero-posterior diameter of the pelvis is not diminished to less than three and a quarter inches, operation is not indicated, and it is not indicated in cases of mild general contraction. This case, as the doctor reports, is evidently, as he states it, one of rachitic pelvis, with slight contraction or comparatively slight contraction. In such cases the operation might be indicated, but where the antero-posterior is less than three and a quarter inches, in all probability Cesarean section would be preferable.

I want to congratulate the doctor personally on the successful manner in which he conducted this case and its happy outcome.

W. F. METCALF, DETROIT: I think there should be more congratulations extended to the essayist in bringing this case successfully through under such conditions. As Dr. Manton has said, the profession favors this operation perhaps only under such conditions, or where the operator is not familiar with abdominal surgery. That is the position I took in the beginning and, therefore, have never performed symphysiotomy, but in these conditions where high traction forceps cannot deliver, and many cases can be delivered by the use of high traction forceps that cannot be delivered with the ordinary forceps, then under these conditions symphysiotomy is the best operation, the only procedure perhaps.

SYPHILIS, ITS MANAGEMENT AND CONTROL.*

ALBERT E. CARRIER,
Detroit.

As long as the world has existed, passion has been gratified illicitly, and to this gratification, certain penalties have been

attached, in the way of the various venereal diseases. How these affections first sprang into existence is a matter of much interest, but of far greater importance is the question of eradication, by prevention of contagion, and the management of the several affections with the object of curing in the speediest manner possible.

Syphilis is a contagious disease, and is in all probability due to a specific germ, or microbe. The disease is essentially a chronic one, and this chronicity is not measured by weeks, but runs into the years; sequelæ as a result of the affection often occurring five, ten, fifteen, twenty years after the inception of the specific virus. From the year 1836, bacilli, and cocci have been demonstrated in the blood, and lesions of syphilitics, but up to the date of Lustgarten's paper in 1884, little was discovered bearing upon the relation of these germs to the causation of syphilis. Lustgarten claimed that he found a peculiar bacilli in chancres, gummata, papules, both dry and moist, and in the lymph glands. Other observers from that date up to the present time have found peculiar bacilli in various syphilitic lesions, and while we have not isolated a germ able of demonstration in every case, the consensus of opinion is strongly in favor of germ theory. The argument that the bacilli are not found in large enough numbers to account for the seriousness of the disease hardly holds good, for we have a like instance in lupus, which to-day is a known tubercular disease, due to the tubercle bacilli, and yet it is a very difficult matter to demonstrate these germs in lupus lesions. Syphilis is the only venereal disease that is capable of transmission by inheritance, and from this fact the study of the disease has an added importance.

*Read at the Annual Meeting of the Michigan State Medical Society, Port Huron, June 27, 1902.

Syphilitic lesions of the skin and mucous membranes are due to a deposit of the virus in the tissues, and it is from the discharges of these lesions that the disease is contracted, contact of this virus with an abrasion being necessary for the development of a case of lues. This property of contagion is not present during the whole course of the disease, but no time limit can be given after which we may say the disease is not contagious. Personal contact is not necessary for infection, the contagion, or virus may be transmitted by various media, such as clothing, drinking cups, the barber's razor, instruments, etc., and the disease contracted in this manner differs in no way from the venereal affection, pursuing the same course, and being followed by the same sequelæ. The infrequency of contracting the disease in this way may be accounted for by the sparse number of bacilli found in the syphilitic lesions. The number of individuals suffering from contracted, or inherited lues, we have no means of knowing, for while contagious diseases are required to be reported to boards of health, for some inexplicable reason, syphilitics are not reported, and even in our own state, where the health board laws are supposed to be of the best, and requirement of reporting contagious diseases is so rigidly enforced, even in the fining of delinquents, syphilis is excepted. In regard to the number that die as a result of lues, statistics are again of little value, for very few of us are willing to put the cause of death as syphilis, when we can call it locomotor ataxia. I imagine if we could have spread before us to-day accurate statistics regarding the death-rate among syphilitics it would open our eyes to the necessity of more strenuous measures for its control. For the same

reasons statistics regarding the chronic invalidism due to syphilis are not on record.

Can syphilis be cured? In the exanthemata we have a class of diseases that have the peculiarity that one attack protects the individual from a second attack, in other words he is rendered immune. Of course exceptions to this rule occur, but in the main it holds good. Syphilis in many of its features is like the exanthemata, in having a period of incubation, a period of invasion, then an eruption, and during a varying period an immunity. Cases of lues are by no means few where the disease has run its whole course without any specific medication. (I refer to the disease in its active stage, the so-called secondary period) and the individual never during his after life giving any evidence of the disease, nor having any syphilitic manifestations occurring in his children. Cases of this kind are on record, and the recorders have been competent observers; now if this is true, then syphilis is a curable disease. As positive proof of the curability of the disease we have well authenticated cases of a second infection. Much more difficult of answer will be the question, "how long will treatment be required," and "when can the patient be pronounced cured?" During the course of the disease there is a period of time when it is contagious, and capable of transmission by inheritance, and another period when the contagiousness is not present, but when the conditions are still syphilitic, being the result of the influence of the specific virus upon the different tissues of the body, and usually attended by most destructive lesions. This period has been called the tertiary period; it would be better to denominate these lesions as sequelæ of syphilis. These

lesions are either due to a special malignancy of the virus in a given case, or may result from inadequate treatment. These so-called late lesions may, however, occur very early during the course of the disease, at times within a few months of the initial lesion. On the appearance of the initial lesion we have no means of prognosing the character of the succeeding lesions, nor as to the severity of the affection, but this, is always to be borne in mind, that the general health of the patient is a modifying factor in the course, and severity of the disease, and that organs that are prone to other pathological attacks, are likely to be selected for the site of syphilitic lesions. A tubercular patient contracting syphilis will be apt to have a grave form of the disease for two reasons, first, the inability of an unhealthy organism to combat the syphilitic processes, and second, from the impracticability of using remedies that are known to exert a favorable influence upon the disease, because harmful in tuberculosis. Malaria is another notable instance of unfavorable influence exerted upon the syphilitic. Habit is another factor in prognosis; venereal excesses, intemperance, and the inordinate use of tobacco, all exert a baneful influence on the syphilitic.

No case of syphilis can be considered properly managed unless attention has been given to the physical condition of the patient previous to contracting lues. Specific medication is for the disease itself, but in many individuals it will be found not to accomplish the required good, when a tonic and roborant medication will be followed by benefit. The physician should not allow his judgment to be biased by the disease so as to interfere with his general therapeutic knowledge, and treating

of the individual as if free from specific disease, in other words treating syphilis means treatment of the individual suffering with disease, and to this adding the specific medication. The patient must be brought up to the best possible standard of health before we use mercury. In addition to this as a preliminary preparation to the real treatment of the disease, is the hygiene of the luetic. A person with a suspicious lesion should have his diet regulated, attention should be given to the gastro-intestinal tract, and the functions of the kidneys looked into, constipation overcome, or diarrhoea controlled, dyspepsia cured etc., for the patient is to be under constant medicine taking for years, and in preparation for this the digestive, assimilative, and eliminative functions should be fully up to the standard of health. The time between the occurrence of the suspicious lesion, and the corroborative evidence of the secondaries gives us the opportunity for this preparation, while at the same time we have the individual's confidence, for he sees that we are treating him, a physical influence that is of value.

One routine matter that is of great import is attending to the mouth and teeth, have the dentist look after this in every instance; with healthy teeth, mouth lesions may not appear. The use of tobacco had better be stopped as it predisposes to mouth lesions, and seriously interferes with their removal if present. Intemperance of all kinds stopped.

Prophylaxis of Patient.

In spite of all that has been written, or spoken about the danger of infection to those who have been in contact with the syphilitic virus, we are constantly meeting with cases occurring innocently.

A syphilitic should sleep alone; a case under my care resulted in the contraction of the disease by a healthy man sleeping with a man who had the disease, for one night only in a Chicago hotel, and he in turn gave the disease to his wife.

Among the most virulent of syphilitic lesions are the mucous patches, and as they occur in the mouth, no healthy person should kiss a syphilitic. A person with syphilis should be instructed by his medical attendant never to allow any one to kiss him at any time, for these patches are liable to occur at any time, and the patient may not be aware of their existence. Kissing should be abolished anyway.

Toilet articles, and articles of wearing apparel of the syphilitic should be sacred to his use only, the changing of a hat may result in a new case of lues. The syphilitic should shave himself, or his barber must be instructed in the precautions that are necessary to prevent inoculating innocent persons. The syphilitic's pipe, pocket knife, and jewelry should not be used, or worn by others. Specific directions should be given regarding the care necessary to prevent the innocent from contagion, and the importance of their observance impressed upon the individual.

In considering the management of syphilis I wish to call your attention, first, to the treatment of the individual as a sufferer from luetic poisoning, and second, as a citizen suffering from an exceedingly contagious disease.

We have seen that syphilis is curable, what measures are to be used to accomplish this result most speedily?

The experience of years by competent observers has taught us that there is no disease in which we can be so optimistic regarding the results to be obtained from

drugs as syphilis. Specific medication in lues is a fact, and the specifics are mercury, and iodine. Differ as we may regarding dosage, or the time of administration, or the preparations used, no case of the disease can to-day be considered as properly treated unless these remedies have been given.

Mercury is the drug that we are to give during that period of the disease when it is contagious, when it is capable of transmission to offspring, that period which is usually denoted as secondary, and which has lesions that are characteristic for our guidance. When to commence the treatment of a case of lues will depend in cases upon two conditions, first, a positive diagnosis, and second, our ability to impress the patient with the necessity of a protracted medication. I mention the latter as a condition because some physicians think that medication should begin as soon as the chancre makes its appearance, without waiting for the appearance of the so-called secondary manifestations, which are such valuable adjuvants in impressing the sufferer with the necessity of a course of treatment that should last for a period of at least four years. Patients are apt to think that a doctor has made a mistake in his diagnosis of the disease if nothing has shown but the primary lesion, and to become discouraged over medicine-taking and discontinue treatment; these are the cases that are apt to be followed by destructive lesions later.

No case of syphilis has been properly treated that has not been under the influence of mercury for two years at least.

Patients have been educated by the public press to regard mercury as a most dangerous weapon, and persist in their requests for its discontinuance, syphilo-

graphers refuse to yield to their requests, but we find general practitioners sometimes do, or its dosage is so small, or it is continued for so short a time that it does not do the good expected, and it had better be left alone than used in this way.

What amount of the drug shall be given at a dose? If there is antagonism between mercury and the virus, or if the specific germ is destroyed or inhibited by its use, then the rule must be to give the largest dose of mercury that can be absorbed without injury to the health of the patient, and experience has shown that this amount varies with the individual, but can be determined by beginning with the minimum dose and increasing it gradually, each dose, until the full physiological effect of the drug is produced which will be shown by the beginning of toxic effects, this dose cut down to one-half, or one-third will constitute the amount of the drug to be used during the period of mercurial treatment.

The use of iodine begins after the active stage of syphilis; it exerts little influence upon bacteria, but where there has been an excess of cell growth, as is found to be the case in the later years of a syphilis, absorbent stimulation becomes necessary, and the iodine accomplishes this better than any other drug. The late lesions are characterized by great cell growth, which forms an organized tissue that is imperfect. This tissue is the result of an increased activity during the secondary period, and requires liquification, and the iodides are known to cause fatty degeneration of such tissue. That there are peculiarities in patients regarding the effects produced by ingestion of certain drugs is positive, and while in many instances this idiosyncrasy may be the result

of some pathological process interfering with elimination, there are instances in which the closest scrutiny fails to discover any cause for the peculiar action, and this must be taken into account when ordering the iodides. Iodide skin lesions are common and often taken for syphilides, to the harm of the patient. Indications for the use of iodine other than in the ordinary late lesions, are those cases called precocious, rapid ulceration, implication of internal organs early in the disease, gumma occurring also early, and where marked cerebral symptoms occur. The dosage is graded by the effect upon the disease, beginning with small doses. Where enormous dosage is necessary hot baths become a valuable adjuvant.

I have said nothing about local therapy, nor have I mentioned destruction of chancre, nor of the various methods of inunction, sublimation, or hyperdermatic injection, I only wish to call attention: First, to the treatment of the patient, bringing him up to the best possible standard of health before beginning his specific medication, and second, to the necessity of a thorough and lengthy, and uninterrupted course of mercury, and third, to a more or less lengthy course of iodine dependent upon syphilitic manifestations.

It is estimated that there are 200,000 syphilitics in greater New York, with a total population of 3,560,000 people. The total of contagious diseases reported in New York for the same time was 30,422. The deaths from syphilis during the year were 177. This, for reasons already stated, must be far below the three numbers. Randall's Island Nursery Hospital reports 8 per cent. of deaths due to syphilis. In a report of 7,200 cases of syphilis, 468 were children with hereditary

syphilis. You know the mortality of syphilitic pregnancies; now if each living syphilitic child represents only three deaths, over 1,300 have occurred as a result of the 7,200 syphilitics reported. But at least 80 per cent. of syphilitic conceptions result in death of the foetus, and the 468 living children would mean a death rate of over 1,800. The great commercial centers are of course the breeding places of this scourge, and to them we should look for the institution of sanitary measures for the control of this disease. Malcolm Morris says "a syphilitic with secondary manifestations is a danger to all around him. He is charged with a poison more baneful than that of the most venomous snakes, which is conveyed on whatever he touches with polluted lips, from a pipe to a communion cup."

Thousands of dollars are spent every year in the health departments of even our smaller cities to prevent the spread of a disease that may number a dozen individuals in the course of a year, while syphilis, with its hundreds of centers of infection is not even recognized by our boards of health as a contagious disease. Is it not about time that some measures were adopted for the restriction of venereal diseases? Valentine is quoted as saying that the two diseases kill more than all others put together. What can we do?

In the first place, it must be recognized that prostitution is here to stay, and just so long as men and women are endowed with passion, will means be provided for its gratification. Teach morality by all means, but put forth best efforts at the same time for proper sanitation. The millenium will long have passed, before by

education we have wiped this scourge away.

Time will not permit me to go into detail of any length on measures of control. It will be granted that if the state has a right to quarantine smallpox, scarlet fever, etc., that it has a right to enact laws looking to the prevention and eradication of syphilis. As the larger number of cases come from prostitution, some measures should be put in force having in view the bettering of the prostitutes' condition. Licensing of prostitutes will probably never occur in this country, and in foreign lands, where this system is in vogue force, while some good has undoubtedly been accomplished, it has not come up to the expectations of the profession.

Between the ages of fifteen and thirty, venereal diseases are most frequent. Instruction of our young men, while in the school or college, as a regular part of the curriculum, might do good, the dangers of the disease, the liability of promiscuous intercourse, and the dire results in the way of chronic invalidism might be forcibly impressed upon the student. There is a morbid disinclination among parents, and instructors of children, to educate them as to the proper use and care of the genital organs, which the child is left to learn sometimes by a most bitter experience.

Difficulty in fixing the source of the contagion prevents the enactment of a law looking to the punishment by fine or imprisonment of the person from whom in illicit intercourse had been contracted a venereal disease.

A license to marry should go farther than simply to show that the parties were of marriageable age. The state supports at an enormous expense those unable to care for themselves, and as in-

herited diseases are often pauper makers, the state should say who should marry, and as syphilis is hereditary, its subjects should not be allowed to procreate.

Private prostitution carried on in places known not to be public houses is the place where the most danger exists, and immoral women should not be allowed in other than known public houses, but in these places should have the protection afforded any other class of business, or calling, and after a time the business would seek a centre by itself, where it would conduct its affairs under recognition.

How about the male prostitute; can anything be done to prevent his spreading the disease? I think he is as prominent a factor in the dissemination of the disease as the prostitute, and as this section is largely men, I leave it with you to enact preventive measures for the male offender.

I think that the time has come for the reporting of syphilis to health boards, not maybe at the present, as a means of identification, and control of the individual, but as a measure of education regarding the prevalence of the disease, and its sequelæ.

DISCUSSION.

WILLIAM F. BREakey, ANN ARBOR: The time permitted for discussion is quite too brief to do anything more than touch upon the salient points of Dr. Carrier's excellent paper, and it is too important to go without some discussion. I wish to emphasize some of the points he has made. First, as to the complications of syphilis. It goes without saying that syphilis is abroad upon our streets and we meet it everywhere, often without recognizing it. The more pronounced skin diseases are visible, cases of eczema and acne and other forms of skin diseases that show upon the faces of the individuals are

seen, but syphilis is often covered by clothes, which cover a multitude of physical sins, as the mantle of charity covers the moral ones, or hidden in cavities or tissues invisible to casual observation.

I quite agree with Dr. Carrier as to the favorable prognosis of syphilis and I am glad to hear the view presented. I think the pessimistic idea is too prevalent in the profession that syphilis is necessarily an incurable disease, and many practitioners fail to persist and to urge persistence upon the patient, and to keep him up to medication, not necessarily always specific medication, but such wise and discreet management and care as shall take into account the maintenance of nutrition. As the doctor has said, no absolute arbitrary rules of dosage or of particular specific treatment can be outlined in advance; the individual patient must be treated, and the variable results secured are due often in large measure to the resistance of the individual.

The patient who is exposed to typhoid fever, already enfeebled by previous disease, or poor nutrition, is very much more likely to have a serious case than one in good vigorous health. So with syphilis, a child, an old man, or one otherwise enfeebled, is much more likely to be seriously affected by the syphilitic poison.

There is a single point the doctor has touched upon, that of elimination. It is a point I have given some attention to, and I have maintained, in teaching students this point by analogy, at least, that we have a right to believe there is a decided elimination of syphilitic virus through the skin. I concede we are unable to prove it by any demonstration; we cannot do it by experiments upon the lower animals, and it is only by analogy, as an argument, that we can do it.

To some extent it must be accepted that syphilis is an exanthem, only the period of incubation differs between that and scarletina and other exanthemata. In those cases we know that the desquamative products are highly infectious; in scarlet fever especially, infected clothing may give the disease months or years after. Why then, may not the scales of syphilis, as of smallpox, be infectious? If they are, does it not follow as an argument that they eliminate the poison?

The time is too brief to go into this question, and I only wished to call attention to that idea, which I think is tenable, that we should endeavor by all means to promote elimination by the skin, and in so doing we must necessarily wait for every opportunity that the secondary lesions afford, and that no treatment should be adopted which is liable to interfere with the efflorescent

process in the beginning of the secondary lesions.

A single other point, which I think is well worthy of consideration, in addition to what Dr. Carrier has mentioned and emphasized—the large number of cases of extra-genital syphilis. Bulkley has collected I think in the neighborhood of nine or ten thousand authenticated cases of syphilis of the innocent, not at all venereal.

These added to the many times larger number of cases, equally innocent, though occurring in marital intercourse, together with the long list of inherited syphilis, furnish more reason if more is needed, why some sanitary control, restriction or management of the still greater number of dangerous syphilitics, should be secured, and the public better protected against this infection.

Of the need for this there is no question.

How it shall be accomplished is a problem worthy of more consideration than it receives from the profession of medicine or the public. It is not new. It has engaged the thought of many of the best men in the profession for many years. And it is to medical men and medical science we must look for any improvement of the present deplorable situation. And though sanitary police of such cases seems as impracticable under present social conditions as regulated prostitution, yet the increased public interest in sanitary science and preventive medicine offers encouraging hope, that with greater public enlightenment we may look forward to the time when the state, with its same right and wisdom, with which it now protects its citizens against diseases dangerous to the public health, shall require of those seeking license to marry, in addition to conditions of age, etc., such evidence of physical and mental qualifications to perpetuate the race, as shall save the world from the blight and care of the great number now born diseased, degenerate, doomed to miserable existence or premature death, and a burden to the state itself.

A. E. CARRIER, DETROIT: Mr. Chairman, I will say very little. The number of insane patients with syphilis, as Dr. Breakey stated, is very great. I am sorry there is not more time for I would like some expression as to means and measures by which we could control this disease. The reports that come from different authorities are very meager. The morbidity resulting from syphilis is hardly appreciated; the death rate we know nothing of for the reason that I have stated in the paper, that we do not report these cases. It seems to me some measures should be taken by which a better knowledge of the disease, which affects so large

a proportion of the population of the country may be had, and in closing I just want to offer these preambles and resolution here:

Whereas, syphilis is an exceedingly contagious disease, and

Whereas, it is known that a large proportion of the population is affected with the disease, and

Whereas, these individuals are a constant menace to the community, and

Whereas, health boards do not require the reporting or isolation of the syphilitic, and

Whereas, the disease is so frequently contracted by individuals non-venereally, and

Whereas, chronic invalidism so often results, rendering the sufferer a burden to the community, and

Whereas, no means have been adopted by legislation to prevent the spread of the disease, nor to educate the community regarding the contagiousness and the danger of the affection, and

Whereas, our vital statistics give us little information regarding the morbidity or mortality of the disease;

Therefore, be it resolved, that the State Medical Society appoint a committee of one to collect from the members of the society data regarding the prevalence of the disease in patients coming under their care, the report to be used as a basis for securing some action or legislation looking to the prevention of syphilis.

Whether that should be offered here or offered in the general session I don't know.

THE CHAIRMAN: I think, Dr. Carrier, before any action could be taken by the State Medical Society, that would have to come before the general session, and I would ask you to bring it up there.

A PRELIMINARY REPORT OF SOME OBSERVATIONS ON THE BLOOD OF PREGNANCY AND THE PUERPERIUM.*

GEORGE R. PRAY,
Ann Arbor.

In a study of the literature one is impressed by the lack of uniformity concerning the condition of the blood during preg-

*Read before the Section on Obstetrics and Gynecology at the meeting of the Michigan State Medical Society at Port Huron, June 27, 1902.

nancy. Even prior to the perfection of instruments of precision for estimating blood states it was the prevalent opinion that the blood was changed during pregnancy. The pregnant woman was thought to have a much increased blood production, giving rise to a plethoric condition. As opposed to this view may be cited Ramsbotham,¹ who spoke against the habit of indiscriminate blood letting, simply because the woman was pregnant, as was quite universally practiced at that time. No very definite work was done toward the solution of the question till Nasse² in 1853 published the results of some very careful and exhaustive researches upon 39 cases of blood lettings in pregnant women. In 1876 he published a more complete paper containing the blood findings in bitches examined before, during and after pregnancy. The examinations included a study of the specific gravity of the blood, the fibrin, the water of the blood, and the salts including iron. He found that during pregnancy the salts and the specific gravity were diminished, while the water and fibrin were increased. A day after labor the specific gravity was increased and the water diminished, while from eighteen to twenty days later they reached normal. The increase of fibrin lasted longer.

Chemical investigations are of value in that they may throw more light on a blood state than the counting of the red cells. These investigations showed the condition of the blood to be one more of anemia than plethora.

Andral and Gavart,³ by less extensive investigations, had arrived previously at similar conclusions. Acting on the same hypothesis Cazeaux and Scauzoni, after observing cessation of symptoms, such as

vertigo, tinitus aurium and headache, after increasing the quantity and quality of the food of the pregnant woman and after the administration of iron propounded their view of a chloro-anemia.

Willcocks⁴ more recently has pointed out that this view is not correct inasmuch as the hemoglobin for the individual cell is not lessened.

Speigelberg and Gschleiden⁵ have shown experimentally that the amount of blood in pregnant bitches was increased volumetrically to fill the dilated vessels of the pelvis. The weight in general increases during pregnancy as has been shown by several observers. This increase is not dependent entirely on the growth of the uterus and its contents and enlargement of the mammary glands, as Nasse has shown by experimentation. The fatty tissue is increased particularly, the muscles not participating in the change.

Mencanti⁶ more recently found in pregnancy with a constant hemoglobin index a falling specific gravity.

Because of these findings, the increased circulatory area, the increased nutritive demand by reason of the hypertrophied organs and foetus, the chemical finds, and a constant hemoglobin index with a fall of specific gravity we are forced to believe that the condition is one of serious hy-dremia. This presupposes a constant number of red cells and no loss of functional value of the given cell by reason of this dilution. Cabot,⁷ p. 56 (*Chin. Exam. of the Blood*), speaking of the red cells, says normal pregnancy does not affect the blood count. He admits that dilatation of the vessels by drugs causes a condition of serious dilution of the blood but says this is only temporary. Stengel and Stanton found the blood pressure to be the same

during pregnancy as before. Taking into consideration the greatly increased circulating area of the blood we see that there must be a volumetric increase of the blood to cause this.

Evidence of increased fibrin in the blood of pregnant women is furnished not only by fresh specimens examined microscopically, but by the deposits found on the inner table of the skull and on the pelvic bones, wrongly called by Rokitansky, osteophytes. The increase in fibrin is greatest near labor and clinically is shown by the increased coagulability at this time. Peckelharing⁸ has shown the source of the fibrin to be a nucleo-proteid due to the disintegration of white blood cells and blood plates. The increase of fibrin is not surprising when we consider the greatly increased metabolism which Nasse proved by estimating the nitro-genous output of the urine and foetus.

Fehling⁹ found an increased hemoglobin in the earlier months of pregnancy and ascribed it to better hygienic surroundings incident to the state. His average for the red cells during pregnancy was 3,500,000 and for hemoglobin 93 per cent., a very high percentage for the number of cells present. After labor 47 of his 83 cases dropped correspondingly in the red cells and hemoglobin, 26 increased slightly, and 10 remained constant.

Meyer¹⁰ examined 37 cases on three different occasions, once early in pregnancy, once the day after labor, and finally after the patient got up. The difference between the average of his first examinations and an average obtained for non-pregnant women was 7000 red cells and 7.8 per cent. hemoglobin in favor of the non-pregnant woman. He found both markedly decreased after labor and also

ascertained that the hemoglobin had risen in two weeks to a point above that found at his first examination. This led him to believe in the chlorotic anemia view.

Rein¹¹ observed an increase in red blood cells and hemoglobin in anemic cases after entering the maternity hospital. He concluded that this change was due to an improved condition of living and believed that if anemia occurred in pregnancy it was due to the ordinary causes of anemia and it progressed similarly to that in the unimpregnated woman.

Dubner¹² found in 20 cases, nineteen to thirty-six years of age, married and of the working class, an average decrease of about 6 per cent. of hemoglobin and 275,000 red blood cells during pregnancy. He claimed that by securing better hygienic surroundings the blood could be brought to normal. The diminution of the red blood cells and hemoglobin was proportional to the amount of blood lost. Eight days after labor the condition present before labor was re-established.

Schroeder¹³ found that in 34 cases examined during pregnancy 25 increased 12.92 per cent. of hemoglobin and 9 decreased the same amount. He examined 42 cases after labor and found that 33 had a decrease of 10.2 per cent. in the hemoglobin, 7 cases increased 6.8 per cent., and 2 showed no change. Twenty-five cases regained 7.6 per cent. during the lying-in period leaving them 2.75 per cent. behind the average for pregnancy. The normal amount was not reached for some time.

Bernhard¹⁴ found the average for red cells and hemoglobin practically the same in pregnant and non-pregnant women. He claimed that pregnancy was apt to produce anemia in weak persons, while in strong

persons an improved condition of the blood often resulted.

Wild¹⁵ found a small increase of hemoglobin and red cells in the last few weeks of pregnancy and a well marked increase in the white cells. After labor the hemoglobin and red cells sank, the first in a more marked degree. The whites were most numerous shortly after labor, sinking gradually during the lying-in period.

Elder and Hutchison¹⁶ found the average of hemoglobin in 7 cases at term to be 72 per cent. The reds were found below normal in practically all cases. These observers studied the relation of the child's and mother's blood and found that the condition of the former was always much better than that of the latter. The hemoglobin varied in the mother from 60 to 83 per cent., which was about two-thirds that found in the child or 95-115 per cent. The average number of white cells at term was 14,522 per cubic millimeter.

Henderson¹⁸ made observations on fresh blood, fibrin, hemoglobin red and white cells. The only change in the fresh specimen in normal cases was the increased fibrin. The day following delivery the hemoglobin averaged 68.2 per cent. He observed an increase of 5 per cent. during the lying-in period. The red cells at term were 3,975,348. There is a decrease of the red cells for two days after labor, then a gradual rise till the ninth day, when a second fall occurs, which lasts for some time and probably to some extent throughout lactation. The white cells averaged 21,365 at term. (These counts were taken mostly during the progress of labor thereby giving too large a number for a correct average at term.) The average was practically the same in primiparous and multiparous patients. The white

cells decreased in number steadily after confinement, but some leucocytosis persisted as long as the patients remained under observation.

The following observations were made on 12 patients admitted to the obstetric service of the University of Michigan Hospital from March 12 to June 1, 1902. The observations include 104 examinations and counts of the red cells, white cells, hemoglobin and 25 differential counts of the leucocytes. Examinations prior to delivery were necessarily omitted in two emergency cases, one a Caesarian section and one a case of puerperal eclampsia. Eight of these twelve patients were primiparae. The ages varied from sixteen to forty-one years. The occupations were, one school girl, one waitress, one factory operator, one actress (puerperal eclampsia), three housewives and three housemaids. Their average stay in the hospital before delivery, excluding the two emergency cases, was forty-two and six-tenths days, which is a longer period than most observers have had their cases under continuous observation. While in the hospital these patients received the ordinary house fare, a generous mixed diet. They took but little exercise, although urged to do so. The technique of the blood examinations was as follows: Before confinement the blood was counted and spreads prepared every four or five days. The first day after confinement and every succeeding second day counts were made and spreads prepared. The blood was taken from the second finger without pressure. The Thoma-Zeiss apparatus was used for counting the cells. The red cells were diluted one hundred times with Toison's solution. The white cells were diluted forty times with one-third per cent. solu-

tion of glacial acetic acid. The hemoglobin was estimated with Tallquist's chart. While not quite so accurate as Fleischel's instrument in a large series of observations the results will only vary a trifle. For the reds the five larger squares, one on each corner and the one in the center were counted, giving one hundred and sixty of the smaller squares on the two specimens counted. The whites were counted after the method of Thoma (Virchow's Archiv. 1882), in which the blood is diluted 1-40 and a field of just such size found that it exactly touches the corner of the Thoma-Zeiss rulings. All the leucocytes in five or ten of these fields are counted and averaged and by reference to a table gives the number per cubic millimeter. The spreads were prepared by drawing a slide over a small drop on a well cleaned cover glass. Four cover glasses were prepared at each examination. These were air dried and stained for two minutes in Dalafeld's haemotoxylin, washed and stained for thirty seconds in a one per cent. aqueous solution of fuchsin, dried by filter papers and mounted in Canada balsam. The differential counts were made with a mechanical stage using a Bausch and Lomb microscope, objective 7, eye piece 1.

Hemoglobin. The results are based on 104 examinations, 55 before labor and 49 after labor. Six different averages have been obtained for this, the same having been done for the red and white cells. The average for the first examination made was 77.7 per cent. of hemoglobin and for the last examination before labor 78.5 per cent. The average found at the first examination after labor was 68 per cent. and that for the last examination made before the discharge of the patient was 72.6 per cent. Taking an average of all counts

taken before labor and of all counts after labor gives an average before delivery of 78.5 per cent., and after labor of 72.9 per cent. The highest recorded percentage was 95 and the lowest 50. The average at term is 9.6 per cent. above that of Henderson.¹⁸ Blackwell's¹⁹ average of all examinations before labor gives only 54.2 per cent. This result was obtained from 163 examinations of New York servants who were under poor hygienic surroundings. On the other hand, Bernhard's average of 82.9 for the last count before delivery, and Finkelman's of 94.1 for the hemoglobin of all observations during pregnancy are noticeably higher than in this series. That German women in general are "fuller blooded" than American is a matter of common observation and rarely do we find one of our women coming up to the 100 per cent. of the Fleischel scale. Of the 10 cases observed before delivery 6 showed a small increase, 3 a small loss, and one no change. The color index shows only a lack of .03, so each cell is practically normal.

RED CELLS.

Average of all examinations before labor—3,713,363 per cubic millimeter.

Average of all examinations after labor—3,559,466 per cubic millimeter.

Average of the first examination made—3,722,900.

Average of the last examination before labor—3,642,857.

Average of the first examination after labor—3,211,571.

Average of the last examination made before discharge—3,706,375.

It will be seen from this that there is a decrease of 80,000 red cells with an increase of 2.9 per cent. of hemoglobin during the period between admission and labor. It is also observed that at the last examination the red cells are only 7,188

behind the first observation, while the hemoglobin is 5.1 per cent. less. This is considerably greater than in the case of the red cells, but the red cells are regenerated more quickly after labor than is the hemoglobin. The red cells and hemoglobin rose to their lowest point three days after labor, then steadily rose as long as under observation.

White Cells.

The averages of the white cells are somewhat lower than are those generally recorded.

Average of all examinations before labor—10,354 per cubic millimeter.

Average of all examinations after labor—15,359 per cubic millimeter.

Average of first examination made—9,500.

Average of last examination before labor—12,229.

Average of the first examination after labor—17,129.

Average of the last examination before discharge—12,372.

In the series no fall was noticed about the ninth day with a subsequent rise as Cabot and Henderson have described. Comparing this with a normal 7,500 per cubic millimeter gives an increase of 4,279 for the leucocytosis at term.

Stained Preparations. In counting the leucocytes, Cabot's outline was adopted, which divides them into large and small lymphocytes, polymorphonuclear neutrophiles and eosinophiles.

Small lymphocytes, 20-30 per cent..	13.9	13.45
Large lymphocytes, 20-30 per cent..	11.1	11.01
Polymorphonuclear, 62-70 per cent..	74.4	73.71
Eosinophiles, 1/2-4 per cent.....	1.28	1.81

Henderson is the only other observer reviewed who has done any work in the differential counting. His values are as follows for 32 cases after labor:

Small lymphocytes	10.8 per cent.
Large lymphocytes	8.8 per cent.
Polymorphonuclear	78.7 per cent.
Eosinophile	1.7 per cent.

It will be seen that the polymorphonuclear cells and the large lymphocytes are increased. The small mononuclear cells are rather below normal and the eosinophiles are slightly above the usual limit as the 4 per cent is not often reached without some cause.

The values obtained were from 25 counts taken at random from the specimens, 12 before labor and 13 after. This was done to ascertain if any changes took place in the proportion of the leucocytes shortly after labor. The counts before and after labor show very slight differences.

From a more detailed study of the individual cases I am led to believe that the blood is only slightly altered as regards the value of the red blood cells and hemoglobin in the average pregnancy. In the woman of low vitality, unable to supply the demand for increased nourishment and keep up with the increased metabolism, the generation of these two blood constituents is not rapid enough to keep pace with the enlarged sacular area and a subsequent decrease in these blood constituents takes place. In a woman of good vitality, free from constipation, which I regard a potent cause of anemia in pregnancy, taking sufficient nourishment and assimilating the same, the stimulus caused by the constant increased metabolism may result in a relatively high value of these blood constituents. In those cases where these constituents are low there is a serious dilution of the blood. The dilution is of the serum and not of the cell body as the high color index of the given cell shows, as well as the microscopic examination of the red cells which shows no hydropic degeneration or other pathological change. According to Nasse the mus-

cular tissue of pregnant dogs contains less water than that of unimpregnated animals. This may be the source of the increased fluid in the blood. The argument that a physiologic process should not alter the blood condition does not hold good, for puberty and menstruation are physiological, yet the blood of male and female children are identical till after puberty,¹⁷ when the normal count in the male becomes 5,000,000 red cells per cubic millimeter and the female 4,500,000.

That the dilution of the blood is largely mechanical is substantiated partially by the increase of blood constituents during the suppression of the menstrual periods in the first three months of pregnancy, then a gradual fall takes place often as the vascular area grows greater. This often goes on till the later months when the growth of the uterus is overshadowed by the relatively greater growth of the foetus.

As to the leucocytosis, it is fair to assume that this is due to the increased metabolism and is of toxic origin. In my cases there was no particular difference between the number of leucocytes in primiparous and multiparous cases. I have seen no explanation of the statement that leucocytosis is absent in a large proportion of multiparous patients.²⁰ The majority of reported cases do not seem to bear this out. That the leucocytosis of pregnancy is not a prolonged digestion leucocytosis, as is believed by some, is shown by the fact that in pregnancy the eosinophile cells are relatively increased while in the digestion leucocytosis they are decreased. Reider also finds, in the last months of pregnancy, a decrease of the leucocytes after taking food.

After delivery the blood constituents, in the majority of cases, are rapidly regenerated. Where the loss of blood has not been excessive the restoration is almost completely accomplished in eight to ten days. The red cells and hemoglobin do not increase side by side here because of the more rapid regeneration of red cells. In the series of cases reported the hemoglobin increased about 5 per cent. and the red cells 500,000 between labor and the discharge of the patients. This shows about twice as great a regeneration of the red cells as of the hemoglobin. The fall that takes place at labor is 10.5 per cent. of hemoglobin and 431,286 red blood cells. I believe the rapid regeneration of the blood is due not only to the formation of new cells, but also to the lessening of the vascular area by the contraction of the emptied uterus, and the subsequent transudation of the fluids of the blood. In favor of this is the fact that in cases where the child was nursed, the rise in the constituents of the blood became most noticeable at the time the milk appeared in the breasts, the reflex connection between the breast and uterus causing by the irritation of the breast a still farther contraction of the uterus and its blood spaces.

The fall of the leucocytes is due in a large measure to the lochial discharge. The interior of the uterus is simply a large wound area which discharges a great number of white cells. That the leucocytes do not return to normal during observation is due to the fact that they are intimately connected with the process of involution which goes on in the pelvic organs. In the cases reported the mothers did not nurse their infants in the majority of the cases, so the breasts were bandaged and the leucocytes in these cases had to

do also with the involution of the breasts. After all hemorrhage there is a leucocytosis, so the fall of the leucocytes after delivery is undoubtedly masked somewhat by this. That all the leucocytosis present after delivery is not due to hemorrhage is shown by the fact that a post hemorrhagic leucocytosis disappears long before the red cells have reached the point of the last count before delivery and the leucocytes are still increased.

Conclusions.

I. Where blood generation fails to keep pace with the increased vascular area a serous dilution of the blood takes place.

II. In the majority of cases this is not serious and can be overcome by simple hygienic measures, fresh air, good food and overcoming constipation if present. Cases where the vitality is overtaxed by the increased demand for nutrition may call for iron or other hematinic treatment.

III. The regeneration of the blood is partly effected by the lessening of the vascular area after labor and the subsequent transudation of the fluids of the blood into the tissues.

IV. The leucocytosis is due to the increased action of the enlarged lymph glands of the pelvis, and in part to the increased metabolism which causes a somewhat toxic condition. Its decrease is caused by the lochial discharge. The persistence is accounted for by the fact that the involution of the hypertrophied pelvic organs and breasts is accomplished in a great measure by the leucocytes.

V. A study of the blood of a woman delivered by the Caesarian operation shows the same general behavior of the blood constituents as does that of women after normal labors.

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NON-ETHICAL ETHICS.*

D. L. WALMSLEY,
Detroit.

I have chosen a non-medical and non-surgical subject, believing that at certain epochs in the history of the profession there are other subjects needing our close attention and mature consideration; subjects that are vital to the best interests of the whole profession. We have been over-indulgent and negligently unobserving of passing events which are most vital to our best interests.

While we, as a profession, are called upon to shut our eyes and seal our lips in matters professional, which is proper, we are not called upon to fold our arms, shut our eyes and blindly follow leaders without duly weighing, each for himself, and thoroughly digesting every feature of the case as applied to us individually and collectively.

In medicine, as in other walks of life, there is danger of monopoly. Circumstances and environments, policy and aggressiveness, associated in a character not overly blessed with consideration for others' woes, in the eagerness for self, is liable to overlook vital features when not pinching closely his own toes.

I am not oblivious to the fact that my task to-night, though self-imposed, is,

*Read before the Wayne County Medical Society.

nevertheless, a trying one; and if I inadvertently step on some one's foot be kind enough to remember that I am ignorant of the corn being on your toe. I regret some one more able than I had not seen it his duty to have taken my task.

I have no ax to grind, no political position to influence, no individual spleen to vent, not even a sneaking desire for a chair in one of our medical institutions; one object, and only one, have I—the betterment of our profession from an unselfish standpoint.

Ninety per cent. of the medical men of our country are general practitioners. In cities there is about 25 per cent. specialists. Of the four or five hundred or more medical men practicing in this city, only a small per cent. of them hold positions in colleges, hospitals and other institutions. Very much the same set of men also hold chairs in our colleges, monopolize the hospitals and other institutions of advantage and emolument.

You will doubtless be asking yourselves why I mention these matters in a question of non-ethical ethics. That is the question I expect you to ask. It is the vital one; upon it hangs the cause of our enquiry. Ethics is defined as “a science that treats of human actions, moral or mental, considered as right or wrong.”

At least seventy-five per cent. of the medical men of the city are unassociated with the institutions of the city, and are consequently barred from the emoluments and advantages, directly or indirectly, laboring, therefore, at disadvantage, and cannot take advantage, if they wished, of benefits accruing from positions.

Now, Mr. President, there is a clause in our Association rules, called “Medical Ethics,” which is supposed to govern the

acts of its members in positions and out of positions. This clause was placed in our code to regulate moral and mental wrongdoing, especially as to advertising our wares for sale, said advertising being considered unprofessional.

In our profession, as in other walks of life, there are those who are ready to take advantage if opportunity presents, and more especially if this vantage ground seems veiled by a screen. It has been apparent during the late past years that advantage of this veil has been taken by leaders in our ranks, much to the displeasure and chagrin of the helpless favored ones. This advertising has not been of a modest type, such as one might expect among a modest class of men who hold front seats in the synagogues, but so glaring that even a half blind man might readily detect "the handwriting on the wall." This digression from ethics might, and I feel safe in saying would, have been gladly overlooked had it only occurred once, and by one person only, but it has been notorious. We should not accept even an attempt, should it be made, at hiding behind presumptuous, over-zealous newspaper men, because, had the newspaper men been warned against it by a threat of prosecution for any repetition of the offense, no further free advertising would have occurred. This kind of thing has been freely indulged in by leaders, without rebuke, and against medical ethics. An attempt to scare off the smaller fry was enacted a year or so ago, and one poor, struggling young man who indulged the example of his seniors, was brought before the tribunal and humiliated, but the leaders still continued to take advantage of the veil and screen.

Another present day violation of medical ethics is in lending our names to medical journals for advertising proprietary articles, under the caption of *writing up a case*, but the veil is too thin to hide the main object, *the proprietary*, the secondary object, our fee. While it is laudatory to earn one's living, it is dishonorable to do so in violation of an acknowledged rule governing the ethics of our profession. These are glaring violations of written and unwritten medical ethics. If we cannot be honest and abide by the rules of our profession and societies, it would be more in keeping with manliness to expurge ethics from our rules, thereby setting all at liberty and permitting each one to advertise, or not, as he sees fit. Hypocrisy should hold no place in our profession.

In olden times, in our own and other countries, it has been and is customary for medical graduates to take a solemn oath, Hippocratic, when receiving sheepskins. In the presence of witness, and with uplifted hands, under solemn invocation to the great Geomatrixian of the universe, each one thus pledged himself to keep inviolate his obligation, which begins as follows: "I will hold my master of medicine in the same rank as the authors of my being; I will share with him my fortune and, if occasion permitting, I will provide for his wants." Said oath reads: "If I keep this oath without breaking it, may it be given me to enjoy happily my life and my profession, always *honored* among men; if I violate it and perjure myself, may the contrary be my fate." This is a solemn oath, gentlemen, yet how flippantly we treat it. We have pledged our honor to share with and provide for our brother practitioner. We

have called upon high heaven to witness that if we violate and perjure ourselves dishonor among men be our fate.

Gentlemen! Are we honorable? I will let each pass judgment upon himself; but, is a rule that permits a favored few to prosper, while it condemns the mass, an ethical rule? Why find fault with your six-week post-graduate brother for dividing his fee when the leaders permit themselves, boosted by newspaper "ads." and conspicuous photography.

Gentlemen! We may frame fee lists, join protective associations, plight our pledges, submit to fines for violating rules—all will be in vain if we have not *honor*.

Four years ago this month, I think it was, I read before the Detroit Medical and Library Association a paper, entitled "Free Hospital and Lodge Practice," which was published in the "Physician and Surgeon," in which I endeavored to point out the weakness of our profession doing charity work for these institutions, and hoped and trusted the leaders would see it to be to our interest to work a change in the order of things as they then existed. Four years have passed, and no change that I know of has been made, or any attempt to right the wrong. The leaders in these institutions seem now, as then, inclined to be satisfied with their lot and their part in working for glory or surreptitious gains. Medical tactics that bolster up one part of our profession at the expense of the other is not ethical.

Hospitals are as necessary as jails and poor-houses, and the services rendered the latter are paid for. The city of Detroit, or any other city that has hospitals, could and would pay for medical services if the medical men insisted on it. The city of Detroit readily voted large sums

of money for vaccination purposes under scare of smallpox, and if thorough systematic insistence was made for pay for work done by the profession in all institutions, the money would be provided, but so long as medical men willingly work for glory they will be permitted to do so.

I would suggest that some one, at the proper time, make a motion that our Society remove from its code that clause called medical ethics, that we may not further dishonor ourselves by pretending to be what we are not.

I would also suggest a committee be appointed by this Association, whose duty it shall be to thoroughly investigate the question of hospital service with the view of improving our position; also, said committee be authorized and empowered to communicate with other cities and medical associations soliciting their aid in bringing about a paying system for medical services in all hospitals and charitable institutions.

Dr. E. L. Shurly, in his very able defense of Sanatorium treatment of Pulmonary Phthisis, read before this Association January 15th, called our attention to the degraded state of public opinion in the early part of the seventeenth century and the cruel treatment of the branded consumptive, an outcast against whom all doors were closed. Dr. Shurly calls upon our noble medical profession to awake from its transient lethargy and assume its wonted courage and philanthropy, and rescue the consumptive from the pursuit of that cruel, unrelenting foe, public opinion. The public are ever ready to take undue advantage. We see in today a tendency in public opinion and customs toward the acts of the early seventeenth century in the tendency to take undue advan-

tage of leniency by imposing upon our open door system of free service a further evidence of degeneracy of a periodical type. The medical profession of the present age have lost their hold on public opinion by want of unity as a profession. We are not sufficiently self respecting to carry weight. We have less power over the public than any other class of professional men, because we are not self-respecting and united. The public treat us with contempt. They believe in Christian Science. Laud quack remedies, deprecate our services by refusing to pay our bills because we are vacillating in our fee tariff—want of union. The judges on the bench and the legal profession scoff at our opinions in the witness-box—all this because we are weak, vacillating and dishonorable with ourselves. Is not history repeating itself? Is there not already finger-boards on the cross-roads pointing to our professional degeneracy? If the past few years can be taken as a criterion, it is not only sanatoria that our profession will need, but poor-houses.

Now it is barely possible, Mr. President, that we may right here to-night meet with opposition to our suggestion, because we are contending for right, for justice, for honor, against injustice long continued; nevertheless, we should not relax our grip on the resolution, but give it a trial. Medical journals have insinuated the advisability of some similar change, and we are not out of place, even as pioneers, moving along these lines. The more opposition we meet with, the more determined we should be to have the matter pushed to a finish, for, if any are against us they are not with us, and if not with us the cause of their opposition to our efforts for universal good indicates a nigger in the fence,

whose whereabouts should be known to us all.

In a wealthy country like this, of which we are proud, there is no just reason why medical men should give their services free, even to the poor. All other workers get paid. If there is a way of providing pay for every other worker except the medical, he, too, can and should be provided for from similar source.

The millionaires of this country are exhausting every effort to find places for their superfluous wealth. If every hospital and charitable institution requiring medical service were informed now that on and after January 1, 1904, all medical service would have to be paid for, there would be means provided and the profession be the gainer and no one be the loser, for millions of dollars would run into this channel that now are begging for library and other acceptance. Gentlemen, the trouble is not in the millionaires; the fault is in ourselves. That *assinine* principle that prevents us being a united brotherhood for mutual good is the reason why today we give our services free to hospitals and charities while everybody else is paid. So long as the majority are willing to stand idly by and let the few interested ones rule, it will be ever so.

Does the medical profession give free services to insane institutions, poor-houses, health boards, jails, marine hospitals, epileptic institutes, etc., etc.; these institutions have the poor too? No. Why, then, give free services to the others? Let me tell you why, gentlemen. A few interested ones—not interested in the poor; O, no! but in self. A few invested and combined their interests in medical schools and, the poor being necessary for clinical purposes, the hospital free service being a feeder to

their coffers, indirectly they give their services free. We know that the receipts from college professorships are not large directly, but indirectly, it tells.

Let me ask you, gentlemen, what difference it would make to the poor whether we are paid or not, so long as they don't have to pay it. When politicians are giving freely, beware! They are after the public strong box. Is there apparent resemblance between politicians and medical leaders?

When Alexandria was at her height, Herodotus tells us the profession of medicine was divided into specialties, some for the eye, others for the nose, others for the belly, and still others for the genital organs and rectum. After this subdivision of the whole the profession became degenerate. Is history repeating itself in our time? If they honored the Hippocratic oath in those days by living up to its teaching, they deserve our approval. If the degradation that followed their degeneracy is to be ours, we should be up and doing, that the dreadful consequences that befell them for degrading and perjuring themselves be not ours.

At the date of this reading we are asking the State Legislature for additional protection for the people, and had we the confidence of the rulers no opposition to so worthy a measure should or would be raised, but we lack the weight our noble profession should carry, because we have forgotten to *honor* ourselves.

The leading daily papers of our own city discredit our actions and insinuate personal motives derogatory to noble intentions on the part of leading lights in our medical institutions. Have I put it too strongly in claiming degradation and degeneracy in our profession?

"O wad some pow'r the giftie gi'e us to
see oursel's as others see us;
It wad frae monie a blunder free us and
foolish notion."

I want it distinctly understood to-night, as I did four years ago, that I am strongly in favor of the best medical schools that can be had, the best hospitals and charitable institutions; the best are none too good, but I want the medical profession to be considered at least equal in service value to the other servants who labor with them in these institutions.

I am aware, from complimentary letters received after reading my former paper on "Free Hospital and Lodge Practice" and from frequent complaints now daily heard, that general dissatisfaction exists among the profession, and I have been urged to again bring the matter before you in hope that an effort may be made to put into operation some scheme that will ultimately work for mutual benefit to us all.

In the Free Press of January 13, 1903, there appeared the annual report of Harper Hospital which, from the financial standpoint, is very gratifying, except the free medical service. It is pleasing to know that the charitably inclined have been in evidence during the year past, there having been some forty or fifty thousand dollars donated, and a surplus of several thousand dollars reported.

The only item among the expense account which we might look upon with anxious desire is the large incidental account of \$9,574. Jokingly, it might be interesting to know how much of this went for cigars for the poor non-paid medical profession?

The whole expense of the past year is less than \$75,000, a sum representing an

investment of a million and a quarter at six per cent., which amount the Morgans, the Carnegies et. al. would readily make up if they knew the medical service would be withdrawn if not paid for.

I would be unmindful of my duty as a brother practitioner if I failed to point out a fact which I believe to be true in reference to our sisters, viz., that not once have we had cause to regret non-ethical conduct on their part. Whether this laudable conduct is due to their greater loyalty to the oath, or to higher conceptions of right, or fear of exposure for wrongdoing, the fact remains the same and their example is worthy our emulation. Sisters, I congratulate you.

THE ADVANTAGES AND LIMITATIONS OF THE REST CURE.

GEO. F. BUTLER,
Alma.

The principles involved in the rest cure are as old as the time of Soranus. Almost all the psychologic principles which obtain today were outlined by this alienist, two thousand years ago. He included with moral treatment, so essential in the conditions benefited by the rest cure, baths, massage and allied procedures. The basic principles of the rest cure were worked out first in insane hospitals and later adopted by neurologists. While Dr. Weir Mitchell's name has been most associated with this treatment, and has done much to popularize it (and, it may be said in passing to render the quackish practice of it by nurses easy), still he merely applied in public what many physicians had previously done without ostentation. His con-

ception of the subject, however, was an erroneous one, based on the assumption that obesity was a sign of health. It is now generally recognized that obesity is an expression of suboxidation, and hence by itself no evidence whatever of mental or physical improvement; indeed, it may be an expression of mental deterioration, since it occurs when emotional stress fails to provoke physiologic reaction. Among the insane this has long been recognized. Careful perusal of the earlier works of Dr. Mitchell shows that he considered over-feeding of more importance than change of environment and mental and physical rest. It is obvious moreover that he failed to recognize the dangers of introspection in cases where the rest cure is indicated. The fact that the mental state in rest cure cases was injured by this subjectivity and that many disturbances of the heart, lungs and other viscera result therefrom has not been recognized by the adherents of the Weir Mitchell school, although they had been pointed out by the alienist Tissot, over a century ago. Dr. Mitchell assumed that sometimes in nervous people the activity of a normal function is competent to cause distress in other organs or to awaken unusual symptoms. He cites the case of a lady who after passing water had slight chilliness, twitching of the face and extreme palpitation of the heart; yet the act of urination is in this case painless and in fact absolutely natural. It is obvious that there is here a failure to recognize the disturbance of the general balance of the nervous system constituting health, and a tendency to attribute as reflex what is simply an exaggeration of the normal function of one organ through lessened inhibition of the central nervous system

which gives the local excito-motor ganglia full play.

Perhaps nothing better illustrates the position of the Weir Mitchell school than reference to the bladder as a cause. The bladder, through its affectability to faint stimuli, is, as Moosso and Pellacani have shown, an even more delicate aesthesiometer than the iris, and is probably the most delicate in the body. Contraction of the bladder follows directly on the slightest stimulation of any sensory nerve and all the varying conditions of the organism which raise the blood pressure and excite the respiratory centers produce an immediate and measurable effect on this organ. These reactions are much more delicate than those of the blood vessels and cannot be paralleled by any other part of the organism. The fainter vesical contractions hardly play a recognizable part in emotion, but when they attain a somewhat higher degree of intensity their influence is easily recognized. A nervous bladder, as Goodell puts it, is one of the earliest symptoms of a nervous brain. It has also been shown by Havelock Ellis that in women a full bladder tends to increased sexual excitement. It is obvious, therefore, that Dr. Mitchell put the cart before the horse in referring phenomena coincident with micturition to bladder disturbance as a cause.

The Playfair School, a badly modified off-shoot of the Weir Mitchell, has the same bias. The principles of the rest cure are to obtain mental and physical rest, and consequently increased nutrition by removal from the old environment. This is a *sine qua non* the importance of which cannot be too strongly impressed upon the physician. Mere alteration of environment, however, is not change. To take

the patient away from home is not sufficient. The visits of relatives and friends very frequently introduce the mental atmosphere of the home under which the nervous condition was born. Correspondence, likewise, is apt to occasion a home environment, since in letters people suggest this by saying too little or too much. In any event, such reticence or confidence produces introspection, increasing the worry element because of the uncertainty thereby engendered. Here, likewise, is a danger from the nurse; who, if trained in a general hospital, in an examination for symptoms, will immediately suggest these to the patient, thereby increasing the introspective tendency. The suggestion of the symptoms *per se* is not so serious as the increase of the patient's uncertainty about the mental or physical state. This influence is too often ignored in the practice of our rest cure systems. It is peculiarly apt to appear in the rest cure at home, where the patient is much more dependent on the nurse, especially where no regular medical attendant is employed. In most private non-medical rest cures this element is completely ignored. The patient, under the pretense of rest, is simply left to brood alone, and when the nurse returns the brooding has given rise to fancies and uncertainties which are either ignored, contradicted or humored. Moreover, nurses trained in general hospitals are but too apt to attempt to impress the patient with their experience by the narration of medical and surgical cases, many of whose subjective symptoms are those of the rest cure patient. Oophorectomies are narrated to women who believe themselves to be afflicted with serious ovarian difficulties. Gastrectomies are told to patients who believe that their gastric neu-

raesthesia means cancer. The prevalent mental trend of the average case requiring the rest cure, whether from the secondary consequences of organic disease, from auto-intoxication or from neurasthenia, or from all three combined, is toward introspection, as has been already pointed out.

From introspection and sub-consciousness of organ disturbance comes, as J. G. Kiernan has remarked, the nosophobia of the neurasthenic. Nosophobia is too often brutally regarded as feigned hypochondriasis, without reference to its underlying factor. Nosophobia differs from hypochondriasis in being a fear of a disease rather than a belief in its existence; hence it is more terrifying than hypochondriasis. Nosophobia, taking a special direction according to the quack consulted, has an alcoholophobiac pseudoreligious, toxicophobiæ psoric, "sexual purity," testicular, uterine, "canalopath," myopath, osteopath, cylinder, catarrh kidney, vermicular or reflex basis. The neurasthenic is peculiarly liable to suggestion, as were the crowds which were "cured" by Valentine Greatrakes in the seventeenth century, and as people are now "cured" by Mother Eddy. This suggestion, however, as a rule, even in mild cases, has but a very temporary effect. It may remove a mild obsession, but the introspection and the nervous conditions behind this are not altered. The suggestion of morbid states, therefore, being in line with nosophobia, naturally has very serious results, especially since such suggestion, by its action on the heart, lungs, liver and kidneys, causes great disturbance of these organs. The action of the heart, lungs or other organs registered in the unconscious phases of the "ego" does not, as Kiernan remarks,

normally form a conscious basis of mental states; their disturbed action, by destroying inhibitions relegating them to the unconscious, raises them into the subconscious sufficiently to disturb the "ego," thereby creating conditions of anxiety, doubt, introspection, and their emotional consequences. These occur at first during sleep at the time of the lowest systemic vitality producing the distressing dreams which so often precede the phobias and obsessions of neurasthenia. The dream impression is sometimes so vivid that a hypnogogic hallucinatory process remains in consciousness, often forming later a vague delusional or false memory.

The individual who becomes conscious of the existence of a disturbed organ when in a state of nervous exhaustion, whether resultant upon organic disease, auto-intoxication, or an expression of nerve-tire, has the first basis of a distressing obsession. The nervous invalids who thus become victims of suggestion are exceedingly numerous, and the average rest cure, with its conception that rest means simple idleness, tends to develop in their most intractable direction, the very conditions it is supposed to prevent. The obsession of the nosophobiæ is too apt to be regarded as a delusion. This leads either to its being humored according to the older idea of treating mental disturbance or its being ignored according to the later distorted notion. The obsession of any type is more a fear than a belief. The patient needs reassurance rather than conviction. Indeed, as a rule, it is the mingled feeling of uncertainty and the absurdity of the fear that is most distressing. This is the more emphatic because of the doubt created in the patient's mind as to mental integrity. It is on the mental side

of the rest cure that dependence should be placed for removing the state of doubt. Intellectual cultivation through reading by the nurse, and cheerful yet logical conversation by the physician on the source and character of the patient's fears is an excellent means of combatting the distressing mental condition of rest cure patients. Any system without this is worse than useless.

Among other errors prominent in the rest cure as ordinarily practiced is that of dietetics. Considering that the conditions treated by the rest cure are all of them states in which auto-intoxication is almost certain to occur, it seems strange that means are not taken to avoid these through proper dietetic rules. To say that the patient must have nourishing food is to repeat a platitude. In dietetics, as in medicinal treatment, the patient, not the disease label must be considered. That milk, as pointed out by many rest cure practitioners, is of value in many cases is undeniable; that milk in many cases, especially of gastro-intestinal neurasthenia, will cause gastro-intestinal catarrh is equally undeniable, though not generally admitted. That buttermilk will often take the place of the latter in just such cases, is certain; but none the less buttermilk is forbidden by the average practitioner of the rest cure. That radishes, cabbage, cucumbers, parsnips, egg-plant, turnips, carrots, squash, beets, sweet and Irish potatoes, as well as veal, pork, bananas and berries may, and very frequently do, undergo decomposition in the intestinal canal, with consequent fecal absorption and resultant auto-intoxication is generally accepted; yet the application of this principle in dietetics of the rest cure is exceptional. That water is needed in great

quantities in the rest cure is admitted, but the "hydrophobia" so frequent in patients is too often heeded by the physician. The necessity of hot and cold baths is recognized, but the patient's disinclination for them is generally humored by the average lay practitioner of the rest cure. Massage that simply supplies the place of exercise which cannot be taken without fatiguing the patient, since he has not only to will the exercise but also to will his will, is too often given under the pretense of some occult, magnetic, osteopathic or hypnotic influence. Any procedure given under these guises to an introspective patient, for reasons already outlined, is a positive mental and, through the results of consequent nerve-tire, physical poison. The masseur needs to be kept particularly in his own place. He is but too apt, like the nurse, to prescribe, diagnose, and give clinical lectures where he should only treat. The benefits of massage are undeniably great, but are totally offset and rendered worse than useless when massage is given by a masseur of the type described. Masseurs, moreover, have frequent perverses among their ranks. This is true equally of the males and females. Proper selection and strict supervision of masseurs and massage is imperatively necessary, cases of morbid attachments between masseurs and patients being far from infrequent. This is one great danger in the rest cure where not adequately supervised. Electricity has similar ill effects, unless the aim be clearly explained to the patient. Electricity in the rest cure is simply a delicate, localized form of exercise. While a competent, well-trained nurse may be permitted to administer it under medical supervision, its use by a nurse who has the usual ignorant concep-

tions of its power and object, is equally dangerous with massage. Slight objectively unpleasant results from electricity unexplained, give an enormous stimulus to the nosophobia of the rest cure patient. Moreover, its beneficial property irregularly applied injures rather than helps.

The medicinal treatment in the rest cure should be minimal and directed only to symptomatic indications which cannot be overcome by proper bowel, bladder, and uterine hygiene, by diet, massage, and electricity. The drenching of the patient with bromides under the assumption of treating nervous conditions with a nerve has become a dangerous abuse in the rest cure. The responsibility of this rests largely with Dr. Mitchell, although Stark, Voisin and Hammond, in Germany, France and America, had almost simultaneously called attention to the dangerous untoward effects of the bromides, it was not until thirty years after that Weir Mitchell discovered them. There is very little doubt that bromide, chloral and other drug habits are created during the rest cure.

A great deal of attention has been paid to morphine, cocaine, and allied drugs in nervous invalids, but the bromide and coal tar habits have received too little attention. Another necessity in the rest cure is that of bringing about periodic functions in the gastro-intestinal canal, both as to assimilation and elimination.

During the rest cure the stomach and bowels should be taught regular times of action. In short, the rest cure, here as elsewhere, should be viewed as a method of education of the system, not a mere therapeutic procedure.

*THE NON-SURGICAL TREATMENT OF EPITHELIAL DISEASE.

J. J. MOORE,
Farmington.

In presenting what I have to say upon this subject, I make no claim to anything original or new, either in the pathology or therapeutics of epithelial disease. I merely give my personal experience in the use of well known methods and the opinions which I have derived therefrom. Nor do I give my experience with the idea of instructing specialists or exceptionally skillful physicians or surgeons, but to contribute an atom to the common stock from the standpoint of the general practitioner. The branch of this subject which I wish to speak of is that class of ulcerations which in the beginning is merely a dirty brown discoloration—a small spot upon some portion of the face, eventually becoming thickened, and rough, a veritable scab underneath which is a raw corroding ulcer.

Whether this be cancerous or tuberculous in character, the history is practically the same,—an insidious onset, a slow but steady progress, and finally extensive, deep and extremely painful ulceration.

I have had many of these cases and almost without exception the patients have been men,—hardy farmers and laboring men of middle age and more; men who had been constantly exposed to the elements, and who cared little for protection.

*Read before the Surgical Section of the Wayne County Medical Society, Dec. 1st, 1902.

I do not recall treating any man for this condition whose occupation was indoors. So constant has been my experience in this regard that I have thought it possible that reduced vitality of the skin from exposure to the biting winds and frosts of many winters might be a contributing cause of disease.

In my hands, but one line of treatment has been effectual, viz.: Removal of the scab; application of arsenic until the diseased tissue was destroyed; then syringing with carbolic acid solution mainly for its anesthetic effect, and following this with bi-chloride syringing, and dressing with bi-chloride gauze. This treatment thoroughly and preserveringly pursued has given excellent results. In but one case, that of a man above eighty years of age, has the disease returned; in this case there were three separate ulcers, in addition to which there was a scar upon the upper lip for which he had submitted to the actual cautery, and in which spot the disease eventually reappeared. One of these ulcers had eaten entirely through the side of the nose into the nasal cavity; these were all healed smoothly and without scar to speak of, and so remained for nearly two years, during which time he passed from my care. In time the disease reappeared, but owing to his advanced age and feebleness, and to the severity of the treatment, it was thought not best to pursue the treatment farther. In this case the disease is now making rapid progress.

Another case differing from these in pathological conditions, but yielding to the same treatment, came under my care ten years ago. A woman fifty-five years of age had large warty growth on nose; the growth was deeply rooted and ulceration well under way. She suffered from

severe pain, and her physical condition was bad; owing to the size of the growth and her debility, I took only a portion of it in hand at a time, but eventually removed the entire excrescence, leaving a deep cavity which was treated like any cavernous wound as before described. After several years the growth reappeared but she postponed treatment until it had again attained a considerable size. The former course was again successfully pursued, and for two years or more she has been in the enjoyment of fair health, free from pain and without disfigurement. In such cases as these I am confident that life and comfort have been prolonged. In my opinion it is the duty of the general practitioner to attack these cases at the earliest possible moment, and in the light of past experience he may hope for reasonable success with the treatment which I have outlined. In the light of the immediate future, I trust that in the X-ray has been found the long-desired cure for malignant ulcerations of whatever kind.

The Attention
of the members is invited
to the program
of the
Annual Meeting
of the
Michigan State Medical Society,
to be held at Detroit,
June 11th and
12th,
on page 1.

The Journal of the Michigan State Medical Society

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IOSCO	H. A. GOODALE	East Tawas	F. O. THOMPSON	East Tawas
ISABELLA	P. E. RICHMOND	Mt. Pleasant	C. M. BASKERVILLE	Mt. Pleasant
JACKSON	N. H. WILLIAMS	Jackson	R. GRACE HENDRICK	Jackson
KALAMAZOO	A. H. ROCKWELL	Kalamazoo	O. H. CLARK	Kalamazoo
KENT	SCHUYLER C. GRAVES	Grand Rapids	FRANCIS J. LEE	Grand Rapids
LAPEER	HUGH MCCOLL	Lapeer	H. E. RANDALL	Lapeer
LENAWEE	C. KIRKPATRICK	Adrian	D. L. TREAT	Adrian
LIVINGSTON	W. J. MCHECH	Brighton	R. H. BAIRD	Howell
MACOMB	P. A. KNIGHT	Mt. Clemens	Jos. M. CROMAN	Mt. Clemens
MANISTEE	ELLSWORTH S. ELLIS	Manistee	W. K. BRANCH	Manistee
MARQUETTE	J. H. ANDRUS	Ishpeming	H. J. HORNBOGEN	Marquette
MASON	A. P. MCCONNELL	Ludington	W. C. MARTIN	Scottville
MIDLAND	A. D. SALISBURY	Midland	W. H. BROCK	Midland
MISSAUKKEE	J. G. REINBERG	McBain	J. F. DODNA	Lake City
MECOSTA	J. W. MCNEECE	Morley	F. C. TERRILL	Big Rapids
MONTCALM	JOHN AVERY	Greenville	H. L. BOWER	Greenville
MONROE	V. SISUNG	Monroe	Geo. T. HEATH	Monroe
OAKLAND			WM. MCCARROLL	Pontiac
O-M-C-O-R-O	S. N. INSLEY	Gravling	C. C. CURNALIA	Roscommon
OSCEOLA	H. L. NOLTE	Reed City	THOS. F. BRAY	Reed City
OTTAWA	HENRY KREMERS	Holland	D. G. COOK	Holland
SAGINAW	T. M. WILLIAMSON	Saginaw	M. D. RYAN	Saginaw
SANILAC	H. W. SMITH	Carsonville	Geo. S. TWEEDE	Sanilac Centre
SHIAWASSEE	D. H. LAMB	Owosso	CHARLES SHICKLE	Owosso
ST. CLAIR	C. C. CLANCY	Pt. Huron	A. HENRI COTE	Port Huron
ST. JOSEPH	MARDEN SABIN	Centreville	JOHN R. WILLIAMS	White Pigeon
TUSCOLA	A. L. SEELEY	Mayville	W. C. GARVIN	Millington
VAN BUREN	Geo. D. CARNES	So. Haven	N. A. WILLIAMS	Bangor
WASHTENAW	REUBEN PETERSON	Ann Arbor	J. W. KEATING	Ann Arbor
WAYNE	F. B. TIBBALS	Detroit	HUGH MULHERON	Detroit
WEXFORD	B. H. McMULLEN	Cadillac	G. D. MILLER	Cadillac

Committee on Scientific Work

A. E. BULSON, Chairman..... Jackson
A. P. BIDDLE, Secretary..... Detroit
G. F. BUTLER..... Alma
KENNETH GUNSOLOS..... Detroit
RICHARD R. SMITH..... Grand Rapids
WILLIS S. ANDERSON..... Detroit
W. A. SPITZLEY..... Detroit
C. K. LAHUIS..... Kalamazoo

Michigan Representatives in the House of Delegates of the American Medical Association

H. O. WALKER..... Detroit
V. C. VAUGHAN..... Ann Arbor
THRO. A. FELCH..... Ishpeming
J. B. GRISWOLD..... Grand Rapids

Member of Auxiliary Committee to Committee on National Legislation, American Medical Association

EMIL AMBERG..... Detroit

Corps of Lecturers.

1st Dist.—THADDEUS WALKER, Detroit, Laboratory Work and Diagnosis
3rd " —JAMES H. REED, Battle Creek, Genito-Urinary Diseases.
5th " —RICHARD R. SMITH, Grand Rapids, Gynecology.
6th " —MASON W. GRAY, Pontiac, Broncho-Pneumonias of Childhood.
10th " —F. E. RUGGLES, Bay City.
11th " —Geo. F. BUTLER, Alma, General Medicine.
12th " —F. MCD. HARKIN, Marquette.

Editorial

HOSPITALS FOR SMALLPOX PATIENTS.

As a result of the recent visitation of smallpox, it has been demonstrated that this sometime highly contagious disease may be under prophylaxis (vaccination, isolation) and appropriate medical treatment robbed of its virulence and relegated to the rapidly growing class in which scientific medicine has recently placed diphtheria—diseases but slightly dangerous to the public health. Public sentiment is being rapidly educated to the expediency of observing strict quarantine regulations and the manner in which the epidemic, if such it may be called, was managed, has been the means of removing to a considerable extent a panicky state of mind heretofore existing respecting the gravity of this disease. If the visitation shall also result in stimulating the public conscience in the matter of housing and caring for smallpox patients, it will prove no less than a blessing. The example recently furnished by a public-spirited woman of Detroit in donating a liberal sum for a contagious disease annex to one of the hospitals is worthy of the highest praise and emulation. It is remarkable that wealthy citizens have not oftener directed their benefactions toward providing suitable means for the study and treatment of contagious diseases, and it is no less than marvelous that public sentiment in enlightened communities tolerates the average smallpox hospital (?). Decent provision for the treatment of smallpox patients would remove any remaining terrors respecting the disease, but the "pest house" to which such unfortunate suffer-

ers are sent is too often such in very truth. A structure placed in some remote part of the city, built of odds and ends after the soap-box fashion and architecturally of no greater pretensions, without ventilation, lacking bathing facilities, with inadequate sewerage, having no provision for the incineration of refuse, with no suitable means for sterilizing clothing and bedding, and with floors and woodwork of such a character as to render asepsis impossible, is it strange that respectable householders are wont to say they would resist at the revolver's point any attempt to remove a sick relative from home to such squalid surroundings?

The writer of this editorial knows of a city, the fame of which for its high ideals in business, its public spirit, its moral standards, and the culture of its inhabitants is state-wide, that permits the care of smallpox patients in two long, single story barracks, one of which only has been painted, this attention it having received at an earlier period when in use as a cereal factory. The flat-iron shaped grounds, destitute of trees, bordering a railroad track, a dirty sink hole filled with stagnant water, the group of buildings comprising two filthy looking outhouses leaning like the Tower of Pisa, together form a picture inexpressibly disgusting.

In all justice it must be said that members of Boards of Health are not as a rule accountable for such conditions. Indeed a strenuous effort was made by the Health Board, in the city referred to, looking to the purchase of a good, substantial brick house, favorably situated, easily convertible into a smallpox hospital, and offered at a price of \$800 more than that paid for the land on which these sties are placed, but the Solomonic Solons of the Council

"economized." It seems high time in case conditions similar to these obtain elsewhere, that physicians bring to bear a strong pressure of public opinion to the end that they may be done away with and suitable provision made for the deserving sick. A good opportunity is afforded local philanthropists also to open their hearts and loosen their purse strings to the same end.

C. B. BURR, Flint.

VACCINATION.

The need of vaccination can be seen daily by any one who cares to watch the development of cases of smallpox in Detroit. The present outbreak of the disease began on September 9, 1902, and since that time there have been 803 cases placed on record at the office of the Board of Health. Of this large number about 75 *per cent.* admit that they had *never* been vaccinated; of the remaining 25 *per cent.* about one-half claim to have been vaccinated, but upon examination no scar of successful vaccination can be found; therefore, of the entire number only about 10 *per cent.* have shown signs of successful vaccination.

Again, when we look at the location of the cases in the city, it is interesting. The outbreak was at first confined to the north-eastern (Polish) section of the city, and the patients were nearly all Poles. Early in the outbreak a systematic house-to-house vaccination was undertaken in that section (it was not extended to the entire city on account of lack of funds and refusal on the part of the Common Council to furnish funds for this purpose), and the result was that smallpox soon disap-

peared from that section entirely. There are, for example, at present 30 cases of smallpox in Detroit, and they are all located outside of the originally infected and subsequently vaccinated district. In fact, 19 of the cases are from the west side of the city; that is to say, not only outside of the originally infected district, but very remote from the same. There are now to be found on the list only two Polish families, and these are in no way connected with the earlier cases.

While it is safe to say that the "backbone of the present outbreak is broken," it is equally safe to predict that there will be occasional cases of smallpox in our midst as long as we find so large a proportion of the population unprotected by vaccination. This applies not only to Detroit but to the entire state. Smallpox is epidemic all over the United States, and the only preventive is vaccination. The sooner we can convince everybody of the truth of this statement, the sooner shall we be rid of smallpox with all of its accompanying dread and horror.

GUY L. KIEFER, Health Officer.

THE ANNUAL MEETING IN DETROIT.

The Annual Meeting in Detroit on June 11th and 12th will be one of unusual interest and of vast importance to the welfare of the Society. It is earnestly hoped that every member will deem it his duty to be present. The first meeting under the new order of things, it will be the test of the value of the work done during the year to be closed. Numerically speaking, the work accomplished has been beyond the most sanguine expectations; to date

55 county societies have been organized and chartered, representing 71 out of 83 counties of the State; and the membership has increased to more than 1,650, a gain of 1,000 new members. This showing reflects great credit upon the enthusiasm, untiring energy and unselfish devotion of the individual councilor of the district. We believe that among this number there will be found a large conservative element, who will see that the work inaugurated is for the best interest of the body politic, and will see that it is continued; will see that the County Society is fostered and encouraged.

The House of Delegates, representing equally, as it does, almost every county in the State (no other county than Wayne, which has 7, and Kent, which has 2, has more than one delegate), should reflect the sentiment of the profession. This body, to which is delegated all the power formerly held by the members in general meeting, except the election of the President, will, we believe, emphatically endorse the faithful work of the councilors during the first year of organization. Whatever action it takes should be done after careful deliberation, for it will affect the welfare of the whole profession of the State and will either give impetus to the work already accomplished or mar the ardor of the enthusiast. And it is the enthusiasm of the reformer which is needed. We believe the work of the year has shown the value of mutual acquaintance, fellowship and corporate organization, and that the best way to reach the individual member is through his County Society, where his character and record are known.

It is needless to add that everything will be done for the comfort and enter-

tainment of the visiting members. All the meetings will be held under one roof in the large Masonic Temple. The program of the meeting appears in this issue, and to it the attention of the members is invited.

County Society News.

TO THE SECRETARIES OF THE COUNTY SOCIETIES:

It is the purpose of the Editors to make the Journal interesting and valuable to the profession in all parts of the State. A certain amount of responsibility, therefore, rests upon you. Keep the Journal supplied with news and information concerning your respective Societies; send **REGULAR** monthly letters for publication; send papers and extracts of papers and help in every way to build up a Journal such as the Editors are hoping and endeavoring to develop.

BERRIEN COUNTY.

The Berrien County Medical Society held its regular meeting at St. Joseph, April 9. There was a good attendance and four new applications for membership were received. The opposition to reorganization is disappearing as it becomes better understood. The interest manifested at the meeting shows the physicians are in earnest, and the society under the new regime is sure to win.

Dr. Robert Henderson, of Buchanan, read a most interesting paper on "How the Physician is Impoverished."

Dr. M. May Beers, of St. Joseph, presented a fine paper on "Ectopic Pregnancy," and cited a case occurring in her own practice. The doctor was complimented on her early diagnosis in the case and saving life by proper surgical procedure. Both papers were fully discussed by the society.

Dr. Orville Curtis was elected Secretary for remainder of the current year.

The next meeting will be held in June. Place to be determined later.

C. N. SOWERS, Acting Secretary.

EATON COUNTY.

Regular meeting of the Eaton County Medical Society was held at Charlotte, April 30. Program:

1. Call to order.
2. Reading minutes of previous meeting.
3. Petitions for membership.
4. Unfinished business.
5. Election of members.
6. New business.
7. Paper: Prognosis and Treatment of Lobular Pneumonia, Dr. Chas. D. Huber.
8. Discussion of Dr. Huber's paper.
9. Presentation and report of cases with general discussion.
10. Adjournment.

W. H. RAND, Secretary.

JACKSON COUNTY.

The Jackson County Medical Society met at Jackson, April 7th. The following papers were presented at the meeting:

- Artificial Infant Feeding—Dr. D. E. Robinson.
- Discussion—Dr. C. H. Lewis, Dr. A. J. Roberts.
- Alcoholic and Tobacco Amblyopia—Dr. Fleming Carrow, Ann Arbor.
- Discussion—Dr. A. E. Bulson, Dr. J. F. Wesch.
- Light and Its Therapeutic Uses—Dr. J. T. Main.
- Case of Bilateral Cystic Kidneys with Autopsy—Dr. F. W. Rogers.
- Resolutions were passed endorsing the Nottingham and Denby bills.

R. GRACE HENDRICK, Secretary.

KALAMAZOO COUNTY.

A joint meeting of the Kalamazoo County Medical Society and Kalamazoo Academy of Medicine was held April 7th, in the Academy of Medicine rooms in the public library.

Dr. P. T. Butler, of Alamo, addressed the meeting on the subject of "Vaginal Hysterectomy."

Dr. A. Hochstein presented a paper on "Some Phenomena in Lesions of the Heart: Their Diagnostic and Prognostic Significance."

Dr. R. E. Balch demonstrated later methods in intestinal anastomoses.

After reading and discussion of papers the annual election of the county officers was held.

Dr. O. H. Clark in chair.

Dr. A. H. Rockwell was elected President for the ensuing year; Dr. F. S. Collier, of Vicksburg, First Vice-President; Dr. F. J. Welch, of Kalamazoo, Second Vice-President; Dr. O. H. Clark, Secretary-Treasurer. Censors for three years—Drs. S. B. Snyder, R. E. Balch, Kalamazoo; Censors for two years—Drs. E. H. Campbell, C. K. La Huis, Kalamazoo; Censors for one year—Drs. J. H. McKibbin, E. P. Wilbur, Kalamazoo; Delegate to represent the society in the House of Delegates of the State Society, Dr. Adolph Hochstein, of Kalamazoo.

The clause in the by-laws relative to the time when the annual meeting is to be held was changed from April to the month of December.

Hereafter the annual meeting will be held in December of each year.

O. H. CLARK, Secretary.

LAPEER COUNTY.

Abstract of paper on NEURASTHENIA read by WM. J. KAY, Attica, before the Lapeer County Medical Society, Jan. 8, 1903.

Dr. Kay has seen lately many cases of neurasthenia in his practice that caused patients and friends great anxiety and himself much worry.

Neurasthenia is a general or systemic disease, having for its basis an inherited or acquired weak nervous organization and a constant irritating agent, which may be within or without, applied long enough for the nerve cells to acquire an abnormal reaction to normal stimuli. Fatigue to a greater or less extent is the distinctive symptom. The neurasthenic is irritable, nervous, sleepless, lacks ability to concentrate attention for any considerable length of time, not always low spirited; in mild cases they alternate from the mountain top of exaltation to the lowest valley of despair. Pulse is rapid, generally of lessened tension, easily affected by such efforts as moving in bed. His experience has been that tenderness along the spine has been of the skin rather than of the deeper nerve structures. Such symptoms as constipation, lessened urine, coated tongue, nervousness, etc. indicate that the engine is being worked under low pressure. Mucous enteritis is a common symptom; an inherited weak, nervous organization and auto-intoxication are the causes that cover a majority of the cases.

In hysteria the contractures, the seeming increase of vigor, at least absence of fatigue, will differentiate. In the beginning of some of the dyscrosis it is almost impossible to differentiate.

The hypochondriac is afraid of the disease he is going to have.. If certain drugs like arsenic, strychnine and veratrim will cause changes in the structure of the neuron, it is fair reasoning that profound changes take place in the neuron cells from some of the ultra-violent poison that may be generated in the human body.

Treatment requires tact; carefully study the surroundings, the personal history and the most trivial circumstances, keeping in mind whether the weak, nervous organization or the irritant is the predominating factor; rest, the degree depending upon the severity of the case; stimulation of the excretory organs; the kidneys by rectal saline solutions, and a light diet at first. Bitter tonics as condurango, compound tincture of gentian, phospho-albumin, cod-liver oil, all have their place. An increase of flesh does not mean recovery. The systematic use of water, aerated, carbonated, externally or internally, help to carry off the poisons of defective metabolism. Suggestion is of some importance. "How beautiful upon the mountains are the feet of him who bringeth glad tidings." Do not expect success in treating disease of the nervous system if you are without hope yourself. If you tell him he will sleep to-night, it is best to make sure he will with a dose of codein or trional. The physician who finds it necessary to scare his patient to lend an additional glory to his marvelous cures has missed his calling or at least should not have to do with the nervous.

Abstract of paper on VACCINATION, read by JNO. V. FRAZIER, Lapeer, before the Lapeer County Medical Society, Jan. 8, 1903.

Frazier's paper shows the advantages of vaccination by contrasting smallpox before and after the discovery of vaccination by Jenner.

Of all the destroyers of life of any nature none he thinks has been more dreaded in the past centuries than the once awful scourge of smallpox. The terrible ravages of the disease in England at the beginning of the 18th century when nearly one-fourteenth of the population died from this disease, increased to one-tenth of the population at the end of the century. In Mexico it suddenly destroyed 3,500,000 of the population, leaving none to bury them. When Jenner made his great discovery, not new as to method, but to source of virus, he had to meet opposition, medical and clerical, mistatement and misrepresentation, and we who are living to-day are reaping the benefit of his courage. The opposition to vaccination is made by the "arm chair general." Every physician should have facts and statistics at his tongue's

end to silence any doubter, be he layman or M. D. He points out the fact that chloroform causes seven times more deaths than vaccination; yet who would think for a moment of giving up chloroform until something better was known. To determine the value of vaccination the following method may be used: 1. By observing the frequency with which smallpox attacks the vaccinated and the unvaccinated. 2. By observing the severity of the attack in the vaccinated and the unvaccinated. Jenner's method was to vaccinate and then inoculate with smallpox and in six thousand cases he failed to produce smallpox. Authority after authority, statistics after statistics, military, naval and service reports all point to the undisputable fact that vaccination does protect from smallpox.

The following is the program of the meeting of the Lapeer County Medical Society held at Imlay City, Wednesday, April 8th:

Cirrhosis of the Liver—Wm. Blake, M. D., Lapeer.

Discussion opened by Frank A. Tinker, M. D., Lapeer.

Treatment of Internal Hemorrhage—C. A. Wisner, M. D., Columbiaville.

Discussion opened by Geo. W. Jones, M. D., Imlay City.

Puerperal Convulsions—A. Price, M. D., Almont.

Discussion opened by S. A. Snow, M. D., North Branch.

Exophthalmic Goitre, Peter Stewart, M. D., Hadley.

Discussion opened by O. J. Thomas, M. D., North Branch.

Is Appendicitis on the Increase?—J. S. Caulkins, M. D., Thornville.

Discussion opened by T. D. Keillor, M. D., Cliford.

H. E. RANDALL, Secretary.

MONTCALM COUNTY.

The Montcalm County Medical Society held its first quarterly meeting at Lakeview, April 7th. There was a good attendance, and all enjoyed an interesting meeting.

There was a good clinic furnished by near-by physicians, and three excellent papers read. Dr. L. S. Croster, of Edmore, read a short, crisp paper on "Certain Skin Diseases." Dr. L. S.

Griswold, of Big Rapids, gave one on the "Differential Diagnosis of Certain Pelvic Diseases," and Dr. Geo. F. Butler, of Alma, read one on "Chronic Nephritis." These were all well discussed.

The Society passed the following resolutions:

First—Favoring the establishing of a State Sanatorium for Consumptives.

Second—Favoring the passage of the Nottingham bill.

Third—Favoring that legislation which authorizes the State Board of Health to designate those communicable diseases which are dangerous to public health.

The next meeting will be held in Stanton, July 1st.

H. L. BOWER, Secretary.

OSCEOLA COUNTY.

The Osceola County Medical Society held its annual meeting at Reed City. The following officers were elected: Dr. H. S. Nolte, Reed City, President; Dr. J. W. Newcomb, Reed City, Vice-President; Dr. Thos. F. Bray, Reed City, Secretary and Treasurer; Delegate to State Society, Dr. T. F. Bray, Reed City.

The following resolution was passed: That this society urges, through the representative of this district, the passage of the Nottingham bill, copy of same to be forwarded to representative.

THOS. F. BRAY, Secretary.

ST JOSEPH COUNTY.

OBSTETRIC ANTI-SEPSIS.*

AARON FLOYD KINGSLEY,
Centerville.

As you will note, the subject of this paper presupposes the presence of sepsis, or its source, pyogenic bacteria, in all obstetric operations. Owing to the nature of the field, the continued presence of micro-organisms, and the extreme difficulty of their complete removal, even under much more favorable conditions, it must ever be so.

Therefore the obstetrician must always bear in mind that sepsis is possible, and I believe if he says probable, he will not be stimulated to too great caution. Any extra precaution we take,

*Read at meeting of the St. Joseph County Medical Society, held at Mendon, Feb. 10, 1903.

if it gives the patient one degree better chance to avoid unnecessary complications at this critical period when her vitality is often at its lowest ebb, and when her natural resistance is so materially lessened, she has a right to demand of us.

To attempt a delivery without complying with the rules of antisepsis is, in my judgment, criminal and I believe it is so held by the courts. A patient may be given a judgment should puerperal sepsis occur after such negligence on the part of her attendants. Legally we are not required to insure any results, but we are required to employ ordinary skill in treating every case. This may be construed to include antiseptic precautions in obstetric practice.

I think all will admit that absolute sterilization of the field of operation is practically impossible. Let us consider how we may render it as aseptic as possible.

The presence of the pubic hair, the abundant secretions of the glands, both of the skin and mucous membrane, together with the warmth of the body, and the repeated soiling of the parts when urine is voided, afford abundant pabulum and favorable conditions for the development of pyogenic bacteria, and that they are always present no one will attempt to deny.

What means have we at hand whereby they may be destroyed, removed or rendered inert?

I. Chemical—Heading the list of chemicals, I think you will all agree, is bichloride of mercury, and oil of mustard is a close second. The first it said to inhibit germ growth in solutions of 1:300000, and oil of mustard 1:33000, while potassium permanganate is said never to completely inhibit, and carbolic acid must be not less than 1:850. But it is not inhibition we desire, but complete asepsis, or as near that as possible. Inhibition without destruction is far too uncertain for us to rely upon when the life or at least the future health and happiness of two patients is at stake. The foregoing ratios were obtained by careful laboratory experiments, but are not applicable to actual practice, for they make no allowance for the presence of so many conditions which prevent the activity of any germicide, such as precipitation, dilution or mechanical inability to reach the germs. Bichloride is an extremely valuable agent when properly used, but to be efficient it must be in not less than 1:2000 solution and owing to its toxicity and irritating effects it is not an ideal for obstetric practice and should, if employed, be carefully removed after each application, so absorption and subsequent intoxication of the patient will be avoided.

Oil of mustard, best applied in mustard flour, is excellent for sterilization of the hands of the operator or his assistants, but it must be thoroughly removed to avoid results unpleasant to the patient.

Carbolic acid is of little value unless used in very concentrated solution, and the pungent odor of the solutions conveys an idea of security which the actual amount of phenol present will not insure.

The list of proprietary antiseptics is daily lengthening and of these agents, though there are many of greater or less efficiency, yet I shall mention but one, which has secured a well merited right to our consideration. This is a preparation of neutral soap, water and cresol; contains fifty per cent. of free cresylic acid, and is known as Lysol. The expense of this article has previously proven an argument against it, but now that is removed, as it can be obtained for sixty cents per pound. The Maine State Board of Health, commenting upon Lysol, says: "It is undoubtedly more efficient than carbolic acid; disinfection of the hands is assured by using a one per cent. solution without the previous use of soap; a one-fourth per cent. renders instruments sterile and does not attack the instruments. It is eight times less poisonous than carbolic acid and much less so than sublimate." This appeals to me as an ideal antiseptic for use in obstetric practice, being applicable for use upon the genitals of the patient, the hands of the operator and his assistants, and also the instruments, with a minimum of danger of toxic effect. Although scores of other chemical antiseptics of greater or less value are urged upon us frequently, yet I think sufficient has been said, believing as I do that it is better to select one or two which are reliable, and cling to them, leaving all attempts at experiment to others.

II. Mechanical—Now let us consider the second means at hand, and this one I believe is the more important of the two and the one to which I should anchor my dependence had I but one at my disposal. The value of plain, hot water and plenty of any good soap—preferably castile—when vigorously applied with a stiff brush, must not be lightly estimated, in any attempt at antiseptics. Chemical germicides are valuable indeed, but it is absurd to depend upon any of them protecting against infection, simply because one has been used in copious amount. Just as well to expect yeast to "leaven the whole lump," because the housewife has a whole package in the cupboard, yet never mixed any with the flour. We

know how prone bacteria are to hide themselves away in the recesses of the epidermis, and in the mouths of the gland ducts, both of the skin and of the mucous membrane. Then the secretions envelope them and they are very secure. To root them from here we must use our best endeavor, and nothing is more efficient than thorough scrubbing. By this I mean not so vigorous an application as would break the skin and thus open new avenues for infection, but sufficient to remove the accumulated secretions, and the outer layers of the epidermis, for we know that this same outer layer is the natural habitat of at least one pyogenic-organism—the staphylo-coccus epidermidis albus—and we have no way of knowing how many others may have been deposited there. Very much can be done to reinforce the mechanical method and render it more efficient. Since this seems to include parts of both the before-mentioned methods, I have styled it the combined methods, which I will now proceed to describe.

III. Combined Method—Let me describe this as applicable first to the hands of the operator, then to the field of operation.

The hands should be thoroughly washed with hot water—as hot as can be borne—and plenty of soap, scrubbing vigorously with a brush which has been previously sterilized either by boiling, or by immersion in a one per cent. Lysol solution. Particular attention must be paid to the regions under and around the nails. Now the nails should be carefully cleaned to remove any fatty deposit that may have escaped, and again scrubbed. Then wash the hands and scrub them well in a one per cent. Lysol bath, and afterward in a fresh bath of the same. This completes the sterilization of the hands. Do not dry them on a towel or anything else. Contamination is too easily accomplished thereby.

If bichloride is employed instead of Lysol it should be a solution of 1:1000. Every trace of soap must be removed by thorough rinsing in plain water before the bichloride is applied, else the mercury will be precipitated and rendered inert. The antiseptic must be completely removed also before we examine the patient.

It is probably the office of the trained nurse to prepare the field of operation, but with many of our patients we are denied this luxury, and must depend upon our own ability. Even when a trained nurse is present, it is well to be able to *direct* her efforts, and we must *know* that she has done her work well, for our patients expect equally good results in any case, and are ever ready to charge to the physician any irregularity which

may occur. The patient, having had a thorough bath, is clad in a clean nightdress and put into a clean bed, protected by some non-absorbent to prevent its being soiled. Plenty of hot soap suds is now applied to the pubes, genitals and thighs of the patient, washing these parts thoroughly and finally clipping the pubic hair. Some advise shaving the parts, but most patients object to this, and, too, I believe it inadvisable because of the discomfort it gives the patient when the hair again begins to grow. Now the parts are thoroughly bathed with one per cent. Lysol solution. This completes the toilet of both the patient and the attendants, unless there is reason to suspect gonorrheal infection, when I would advise the use of a bichloride douche of about 1:2000, preceded and followed by a copious douche of plain sterile water. After this the canal may well be lubricated with sterile vaseline or olive oil, to replace so much as possible the natural lubricant which has been removed.

All instruments, ligatures and sutures should be sterilized by boiling, and their asepsis maintained by placing in a dish of Lysol solution until needed. This is preferable to a sterile towel, for continued antisepsis is better, I believe, than simply the inert asepsis of a sterile towel.

One thing more concerning the mother. Should the perineum become soiled by feces, cleanse it well with any strong antiseptic, but preferably bichloride of mercury 1:500, wiping away from the vaginal orifice.

Now, before we have completed our obstetric operation, another individual has appeared, and we must extend our antisepsis in this direction. Usually it will be confined to caring for the stump of the umbilical cord. The ligatures we have used have, of course, been sterilized as described, and we believe we have not soiled the navel by bringing in contact with it dirty hands, and now we must maintain this asepsis by careful dressing. Just here let me recall the principle of bacteriology, that moisture favors germ growth and developments while its absence inhibits the same. This being true our duty is very plain, to apply a dry dressing which has been previously sterilized. This I accomplish by placing the stump of the cord between two layers of absorbent cotton, then covering with a dry dusting powder consisting of equal parts of bismuth sub-nitrate, boric acid and lycopodium. I instruct the nurse to exercise great care when bathing the child, not to wet this dressing or disturb it at all, unless the navel should become inflamed, until the stump separates. I have never had a case of infected umbilicus following this treatment.

One thing further about the child. If we have reason to suspect gonorrhea in the mother, the child's eyes should be carefully cleansed immediately with a saturated solution of boracic acid. Then instil into each eye a few drops of a one per cent. solution of silver nitrate, and at once neutralize with some sodium chloride solution. This silver application should be made once daily until the danger of ophthalmia neonatorum is past.

Now I realize that all I have said is not applicable to every case. A certain number of cases we never see until we arrive at the bedside after labor is well advanced. As to the cause, let me say that it is our duty to do just so much as we can, always bearing in mind that it is the welfare of the patient which we must consider and not our own personal convenience.

TUSCOLA COUNTY.

The Tuscola County Medical Society met at Caro, April 13th. Dr. Peter J. Livingstone, of Caro, was elected delegate to the State meeting in June. The president, Dr. A. L. Seeley, Mayville, gave a fine address at the opening of the meeting and the following papers were read and discussed: "Some Cases of Scarlet Fever," C. W. Clark, Caro; "Diseases of the Heart Complicating Pregnancy" P. J. Livingstone, Caro; "Nervous Dyspepsia," L. M. Ryan, Caro; "The Treatment of Lobar Pneumonia in Children," R. L. King, Caro; "The Inhalation Treatment of 'Colds' in Children," W. C. Garvin, Millington. Five new members were received and a banquet was held in the evening.

W. C. GARVIN, Secretary.

VAN BUREN COUNTY.

The Van Buren County Medical Society met in the South Haven Club Rooms, South Haven, Thursday, April 30, 1903. The following is the program:

MORNING SESSION.

10:30 A. M. to 12 M.

General Routine of Business.

AFTERNOON SESSION.

Paper.....Dr. E. L. Mater, South Haven
Intestinal Hemorrhage in Typhoid Fever.

Paper.....Dr. J. R. Giffen, Bangor
Cardiac Hypertrophy.

Paper.....Dr. J. Murphy, Bangor
The Giving of an Anaesthetic.

N. A. WILLIAMS, Secretary.

WASHTENAW COUNTY.

The Ann Arbor Medical Club met Tuesday, April 7th. The following is the program of the meeting:

Exhibition of Patients.

Reports of Cases.

Demonstration of Specimens.

Hydatids of the Liver—A. H. Ferguson, M. D., of Chicago.

The Discussion opened by C. B. Nancrede, M. D., of Ann Arbor.

J. W. KEATING, Secretary.

WAYNE COUNTY.

MARCH PROGRAM.

GENERAL MEETINGS.

March 5—Clinical and Pathological Evening.

March 12—A Decade of Progress in Abdominal Surgery.

"Surgery of the Stomach, Pancreas, Gall-bladder and Liver," by Dr. H. O. Walker.

"Surgery of the Intestines and Appendix Vermiformis," by Dr. Wm. F. Metcalf.

"Surgery of the Pelvis," by Dr. W. P. Manton.

March 19—"The Dispensing Problem," by Dr. W. J. Wilson, Jr.

"Antistreptococcic Serum in the Treatment of Inflammatory Rheumatism and other Diseases, with Report of Cases," by Dr. G. H. Sherman.

March 26—"Diagnosis and Treatment of Tubercular Kidney," by Dr. Ramon Guiteras, of New York.

SECTION MEETINGS.

March 2—Surgical Section. "Empyema of the Gall-Bladder Due to Gall Stones," by Dr. H. R., Casgrain, of Windsor, Ont.

March 9—Internal Medicine and Pathology.

"Hemolysis and Preceptus with Demonstrations," by Dr. A. H. Gorenflo.

March 16—Obstetrics and Gynecology.

"Placenta Prævia: Its Causes and Conditions," by Dr. Homer E. Safford.

"Management of Placenta Prævia," by Dr. James Samson, of Windsor, Ont.

March 23—Eye, Ear, Nose, and Throat.

"The Oral and Facial Deformities Associated with Occlusion of the Upper Respiratory Tract," by Milton T. Watson, D. D. S.

At the meeting of March 5, some amendments to the Constitution were proposed, chief among

which is the method of election. The amendment provides that nominations shall be made at the second meeting in May, and that election shall occur at the last meeting in May. All ballots are to be polled, and a majority vote is necessary to elect.

HUGH MULHERON, Secretary.

MEETING OF THE STATE BOARD OF HEALTH.....	221

The Michigan State Board of Health met in regular session in the Capitol, Lansing, April 10, 1903. The members present were: Hon. Frank Wells, President; Victor C. Vaughan, M. D., Ann Arbor; Hon. Henry A. Haigh, Detroit; Collins H. Johnston, M. D., Grand Rapids, and Henry B. Baker, M. D., Lansing, Secretary.

After the auditing of bills and accounts and the disposal of much other routine work, the President gave his annual address, some of the subjects upon which he spoke being as follows:

The subject of rabies, now epidemic in Michigan, and the work of the board for its restriction and prevention, were reviewed at some length, circulars of information and forms of regulations requiring the muzzling of all dogs at large having been sent to each of the sixteen hundred local boards of health in the state. While consumption has decreased during the year, there has been a great epidemic of smallpox, and the office of the board has been putting forth every effort to stamp it out, meeting with great opposition because of the mildness of the disease and its not being reported or considered as smallpox. During the year two sanitary conventions have been held, one at Pontiac and the other at Cheboygan. There was also a successful conference of Michigan health officials at Ann Arbor. The President regarded that annual conference as very important. Being held in Ann Arbor, where the State Laboratory of Hygiene is, the best papers and discussions possible can be secured. The health officers get in touch with each other and with the new ideas and facts in sanitary science, and new zeal is inspired in them. Three meetings of the Board for the examination of embalmers for licenses were held—at Lansing, Escanaba, and Battle Creek; and a large number of applicants were examined. The term of office of two of the members of the board had expired. C. M. Ranger, of Battle Creek, was appointed to succeed Dr. Belknap, of Benton Harbor, and Mr. Wells, of Lansing was reappointed. Concerning much needed

public health legislation, desired to be secured from the legislature, the report was unfavorable, because the bills are not reported out by the public health committees to which they were referred by the legislature. Two measures, regarded by him as of the greatest importance in the interests of the public health, are the one to establish a State Sanatorium for Consumptives, and the one to authorize a competent tribunal to define what are the dangerous communicable diseases. At a very good public hearing on the Sanatorium bill a strong showing was made, convincing some members of the legislature of the great importance of the measure. Having spent the winter in California and the west, and made a study there of the sanatoria for consumptives, Mr. Wells gave a short account of them, including the Espairanza, near Pasadena, giving details and methods of the fresh air mode of treatment. All of the patients are promptly improved and the treatment is remarkably successful. With a proper sanatorium, the same results might obtain in Michigan.

Hon. Frank Wells was re-elected president for the next two years, which office he has held for ten years.

Dr. Vaughan reported as a special committee on rabies. He stated that two or three years ago rabies was very prevalent in New York, and it gradually spread partly through Ohio into Michigan. The first case here under his observation was near Ypsilanti, where a man died of the disease. From that time, rabies has spread to every part of the lower peninsula of Michigan, and is now very prevalent among cattle, hogs, and other domestic animals. Many dogs and children have been bitten, and one child died of the disease at Saginaw. At the recent meeting of the Board of Regents of the University, Dr. Vaughan recommended that a Pasteur institute be re-established at the University, which was done. There are already six patients being treated there, five of whom were bitten by dogs known to be infected with rabies. It takes three weeks to treat patients. Residents of Michigan are treated free of charge, but their room and board are not supplied by the University free. The doctor thinks the \$2,500 which the University appropriated to maintain the institute for a year is money well invested. The loss in Michigan from cattle alone has already been several thousand dollars. The laboratory has been applied to for virus with which to treat animals as well as persons.

Secretary Baker mentioned that the child in Kalamazoo county, bitten by a rabid dog and sent to the Pasteur Institute at Chicago, is reported as still free from the disease.

The pamphlet on the restriction and prevention of measles was amended, and 11,000 copies ordered printed for distribution in infected neighborhoods. The same number of copies of the printed slip "Instructions to Consumptives and Their Friends," was ordered printed.

Dr. Vaughan was appointed a delegate to attend for study of public health subjects, the meetings of the American Medical Association, May 5-8, 1903, the American Academy of Medicine, May 11, and the American Association of Physicians, May 12.

The Board decided to hold examinations of undertakers for embalmers' licenses June 10, 1903, at Lansing, and July 17, at Grand Rapids. Applications will not be received later than ten days before each examination.

Obituary

EDWARD W. JENKS, 1833-1903.

Edward W. Jenks was born in Victor, Ontario County, New York, in 1833, the son of Nathan and Jane Bushnell Jenks. His father was of Quaker descent, a leading merchant in Victor for many years. He became the purchaser of large tracts of land in Northern Indiana, particularly in La Grange County where he laid out the village of Ontario. In 1843 he removed there with his family and established the La Grange County Collegiate Institution.

At this institution Edward W. Jenks received his earlier school training. He began the study of medicine in the Medical Department of New York University, 1852, but his health failing him, was obliged to return home.

In 1855 he graduated from the Castleton (Vermont) Medical College, and immediately proceeded to New York to carry out his long cherished purpose, but, after remaining with the University for about a month, he found himself so much enfeebled by long confinement that he followed the advice of friends and returned home. He was soon employed in country practice.

From 1853 to 1864 he was engaged in the practice of medicine in Indiana. In 1864 he received an aduendum degree in the Bellevue Hospital Medical College, of New York. During the same year he removed to Detroit.

For four years he was one of the editors of the Detroit Review of Medicine. In 1868 he was one of the founders and was elected Professor of Obstetrics and Diseases of Women, and President of the Detroit Medical College. He held

the chair of Surgical Diseases of Women in Bowdoin College (Maine), lecturing in that institution each year during the spring months after the close of the college session in Detroit. He resigned in 1875, owing solely to the labor it involved.

He was for many years surgeon in the Department for Diseases of Women in St. Luke's and St. Mary's Hospitals, and Consulting Surgeon at the Woman's Hospital, in Detroit. From its organization to his resignation, in 1872, he was one of the physicians of Harper Hospital. For several years he was surgeon-in-chief of the Michigan Central Railroad, and President of the Michigan State Medical Society in 1873. He was also President of the Detroit Academy of Medicine.

He was an honorary member of the Maine Medical Association; Ohio State Medical Society; Toledo Medical Association; Cincinnati Obstetrical Society; Northwestern Medical Society, of Ohio, and several minor organizations; corresponding member of the Gynecological Society, of Boston; fellow of the Obstetrical Society of London, England; an active member, and one of the founders, of the American Gynecological Society; member of the Wayne County Medical Society; member of the State Board of Corrections and Charities; member of the American Medical Association; the American Social Science Association; the American Institute of Arts, Science and Letters; in 1878 he was chairman of the Obstetrical Section of the American Medical Association.

In 1879 Albion College conferred upon him the honorary degree of LL. D. In the same year he was selected to fill the chair of Medical and Surgical Diseases of Women, and Clinical Gynecology, of the Chicago Medical College.

He removed to Chicago in 1879. His health now became impaired, and in 1882 he resigned his position with the medical college. In 1884 he returned to Detroit, where he had since resided.

While Dr. Jenks had been successful as a general practitioner, it is in the departments of obstetrics and gynecology that he has devoted especial attention, and in these departments he had gained a national reputation as a skillful operator, teacher, and author. His numerous articles on these subjects remain widely circulated, and are considered valuable additions to medical literature.

Among the most important of these contributions may be named: *The Use of Viburnum Prunifolium in Diseases of Women: Cause of*

Sudden Death of Puerperal Women; Perineorrhaphy, With Special Reference to Its Benefits in Slight Lacerations and Descriptions of the Mode of Operating It; On the Postule Treatment of Tympanites and Intestinalis Following Ovariectomy; On the Relation of Goitre to the Generative Organs of Women; Atresia; The Treatment of Puerperal Septicaemia by Inter-Uterine Injections; The Practice of Gynecology in the Ancient Times; Coccygodynia; New Mode of Operating in Fistula in Ano; Report of Successful Case of Cæsarian Section After Seven Days' Labor; Contribution to Surgical Gynecology. He was also one of the contributors to *Pepper's System of Medicine*; *Articles for the System of American Gynecology.* He has also been a contributor to the *Physicians' Leisure Library Series on Disorders of Menstruation.*

He was first married in 1857 to the daughter of J. R. Darling, of Warsaw, New York, who died soon after his removal to Detroit. In 1867 he married Sarah R. Joy, the eldest daughter of the deceased James F. Joy, who died in 1900. He had two children: Miss Martha R. Jenks and Dr. Nathan Jenks.

Dr. Jenks died March 19, 1903, while on his way home from Mexico.

PETER KLEIN, 1813-1903.

Dr. Peter Klein, one of the best known German physicians and residents of Detroit, died March 15th.

Dr. Klein had an interesting and busy life. He was born at Oernmingen, canton of Saar-Union, department of the Lower Rhine, Alsace, France, on September 12, 1813, and was the second son of Frederick and Eva Klein, who conducted a farm in Alsace. His father died when Peter was seven years old, and later the widow married again and they determined to come to America. They sailed from Havre de Grace on the brig *Globe*, and were en route 88 days, arriving at New York in the fall of 1828. The family settled on a farm six miles from Buffalo, but Peter Klein soon became tired of an agricultural life, and left home with a neighbor's boy having only 75 cents in his pocket. They went to Buffalo, where Mr. Klein decided to adopt the profession of a physician. He studied for four years in Buffalo and later studied medicine and practiced his profession at Buffalo, Rochester and St. Catharines, Ont. In the winter of 1844 Dr. Klein matriculated in the medical department of King's College, Toronto, Ont., graduating in 1846. Immediately afterwards

he opened an office at Detroit and practiced medicine to within a few years of his death, being very successful.

Dr. Klein was a prominent member of the Wayne County Medical Society; the State Medical Society and the American Medical Association. In 1847 he was county physician. From December, 1863, to May, 1866, Dr. Klein was in the United States army service, being army surgeon in charge of the Exchange Barracks, at Detroit. In 1869 and 1870 and from 1875 to 1876 he represented Wayne county in the lower house of the legislature.

In the year 1854 a joint stock company was organized when the Michigan Volksblatt was established to represent the German Democrats of the city. Dr. Klein assumed entire charge. It was through his efforts that success came to the paper at that time. Later he sold out his interest. Deceased was a Jeffersonian Democrat, a Mason and an Oddfellow. He was a member of Union Lodge of Strict Observance, No. 3, Free and Accepted Masons, for fifty years and attended the fiftieth anniversary celebration of this organization a year ago last January. On October 29, 1853, he was married to Miss Sevilla Damaret, of Odense, Denmark. He leaves a widow and several grandsons and grandnieces.

WM. B. TOWN, 1830-1903.

The death of Dr. Wm. B. Town, of Geneva, Lenawee County, occurred recently at his home in Rollin township. He had been ill for several years, the immediate cause of death being dropsy and heart disease. He was one of the most prominent men in that section and had long been interested in affairs of a local and state nature.

Dr. Wm. B. Town had lived on the old homestead, on the shores of Round lake, nearly all his life. He was born at Norwich, Ontario, Canada, July 23, 1830.

Dr. Town attended school at Jackson during winter season and commenced reading medicine under Dr. H. Powers, of Rollin, when 21. He took a two years' course in the Medical Department of the University of Michigan and commenced practice at Geneva, at Round lake, where by conscientious work and attention to business he built up a lucrative practice.

He took a great interest in local affairs, serving in local offices, and for seventeen years was postmaster at Geneva. He was school director for seven years, and in 1884 elected a member of the

state legislature on the Democratic ticket. During his work in the legislature he served on many important committees, especially those concerning public health and the Industrial Home for Girls.

October 27, 1853, he married Miss Elmina C., daughter of Americus and Martha (Beal) Smith, of Fairfield.

Dr. Town was a member of Addison lodge, No. 157, F. & A. M., and was prominent in its work for over thirty years.

Communication.

A SYMPOSIUM ON MODERN PROSTATIC INVESTIGATION.

The entire issue of the "*American Journal of Dermatology and Genito-Urinary Diseases*," published at St. Louis, Mo., for May, 1903, will be devoted to a symposium on Modern Prostatic Investigation.

The leading surgeons of the world will take part in this work, which will be discussed, arranged and presented in a manner never before undertaken. The following subjects will be discussed: (1) To what extent occupation tends to prostatic hypertrophy with especial reference to active indoor, active outdoor, and sedentary pursuits. (2) Which suffer oftenest, the phlegmatic or nervous, the lean or obese? (3) Etiology of prostatic hypertrophy. (4) To what extent the Cystoscope has been of service in diagnosis. (5) To what extent habit is responsible for prostatic hypertrophy with especial reference to the use of alcohol and constipation. (6) In what cases palliation is advised, and of what it consists. (7) Ligation of the vasa deferentia and results. (8) Castration for prostatic hypertrophy and results. (9) Bottini operation or some modification of this treatment and its success with special reference to complications, permanency of relief, etc. (10) Supra-pubic drainage with an estimate of results. (11) Supra-pubic prostatectomy and results obtained. (12) Perineal prostatectomy and with what success. (13) Operation of choice for prostatic hypertrophy. (14) What unexpected complications have arisen during the operation for prostatic hypertrophy, and what during the post-operative conduct of cases. (15) Resume of prostatic work.

PROGRAM

— OF THE —

38th Annual Meeting

— OF THE —

Michigan State Medical ... Society ...



At the Masonic Temple,
Detroit, Mich.

Thursday and Friday,
June 11 and 12, 1903



THE COUNCIL

*Wednesday, June 10th, 1 o'clock P. M. Standard, at
Hotel Cadillac.*

*Thursday, June 11th, 4 o'clock P. M. Standard, at
Masonic Temple.*

*Friday, June 12th, 4 o'clock P. M. Standard, at
Masonic Temple.*

Organization and Election of Officers.

HOUSE OF DELEGATES

MASONIC TEMPLE

from this Society, which has made its annual report as provided in this Constitution and By-Laws, shall be entitled to one delegate.

PRELIMINARY MEETING

WEDNESDAY, JUNE 10TH
7.30 P. M. STANDARD

1. Call to order by the President
A. E. BULSON, Jackson.
2. Report of the Council
LEARTUS CONNOR, Detroit, Chairman.
3. Report of Committee on Legislation
B. D. HARISON, Sault Ste. Marie, Chairman.
4. Report of Auxiliary Committee of Committee on National Legislation
EMIL AMBERG, Detroit.
5. Report of Committee to petition the Legislature for an appropriation for the establishment of a properly equipped Sanitarium for the *Treatment of the Early Stages of Tuberculosis*
V. C. VAUGHAN, Ann Arbor, Chairman.

6. Report of the *Michigan Representatives in the House of Delegates* of the A. M. A.

H. O. WALKER, Detroit, Senior Member.

7. Miscellaneous Business

- a) Appointment of Committee on Nominations of 5 to nominate

1st, 2d, 3d, and 4th Vice-Pres.

4 Councilors for 2 years

4 " " 4 "

4 " " 6 "

2 Representatives in House of Delegates,

A. M. A., for 1 year

2 Representatives in House of Delegates,

A. M. A., for 2 years

To fix Place of Meeting for 1904

Adjournment

FIRST DAY, THURSDAY, JUNE 11TH

8.30 A. M. STANDARD

Unfinished and Miscellaneous Business

Adjournment to General Meeting

SECOND DAY, FRIDAY, JUNE 12TH

12 O'CLOCK NOON STANDARD

1. Report of Committee on Nominations
2. *Unfinished and Miscellaneous Business*
Adjournment

GENERAL MEETING

MASONIC TEMPLE

FIRST DAY, THURSDAY, JUNE 11TH

10 A. M. STANDARD

1. Call to order by the President
A. E. BULSON, Jackson.
2. Prayer REV. EDWARD H. PENCE, Detroit.
3. Address of Welcome
HON. WM. C. MAYBURY, Mayor, Detroit.
4. Report of Committee on Arrangements
H. O. WALKER, Chairman.
5. Address of the President
A. E. BULSON, Jackson.

"Reorganization of the Medical Profession of Michigan, with Suggestions for the Future"

6. Oration on Surgery

F. W. ROBBINS, Detroit.

"The Surgeon: His Opportunities and Responsibilities"

7. Miscellaneous Business

- a) Nominations for President

Adjournment

SECOND DAY, FRIDAY, JUNE 12TH

11 A. M. STANDARD

1. Unfinished Business
2. Report from the House of Delegates
3. Oration on General Medicine
I. H. NEFF, Pontiac.
"The Role of Suggestions in Therapeutics"
4. Oration on Obstetrics and Gynecology
F. A. GRAWN, Munising.
"Obstetrics in General Practice"
5. Miscellaneous Business

At 12 o'clock Standard the result of the ballot for President will be announced

Adjournment

Each Paper is limited to 15 minutes for reading; each discussion to 5 minutes

SECTION ON GENERAL MEDICINE

FIRST DAY, THURSDAY, JUNE 11TH

2 P. M. STANDARD

1. Report of a Case of Bilateral Cystic Kidney
H. E. RANDALL, Lapeer.
Discussion of the theories; retention, growth, malformation; rarity; diagnosis; symptoms; report of a case; specimen; treatment—surgical and medical.
2. Reflex Disturbances from Eye-Strain
O. A. GRIFFIN, Ann Arbor.
3. Headache JEANNE C. SOLIS, Ann Arbor.
To introduce the subject the clinical histories of a number of cases will be given. Then will follow a discussion regarding the etiology, pathology, symptoms, diagnosis and treatment of headache.

4. The Essential Points of Distinction between Cerebral and Mental Disease

HIRAM A. WRIGHT, Detroit.

The paper distinguishes between delirium and insanity. It shows how the study of psychology, supplementing our knowledge of the physiology of the nervous system, enables one to distinguish between disease of the brain and diseases of the mind. It states that insanity can exist without disease of the cortex of the brain. It calls attention to the importance of the study of psychology as a preliminary to the study of psychiatry.

5. Some Clinical Observations on Defective Metabolism as a Factor in the Production of some Forms of Mental and Nervous Disease

SAMUEL BELL, Detroit.

The advancement made by the physiological chemist, bacteriologist and pathologist, and the value of their researches in the study of mental and nervous diseases. The importance of somatic conditions. The auto-toxaemic theories and the importance of defective metabolism.

6. The Treatment of the Hypertrophies of the Lymphoid Ring B. R. SHURLY, Detroit.

The structures included in Waldeyer's ring. Prophylaxis and hygiene as factors influencing the development of hypertrophies. The relation of infectious diseases to the hypertrophy or lymphatism. Feeble resistance to infections. Diphtheritic and other pseudo-membranous inflammations; chronic lacunar and chronic parenchymatous inflammations; adhesions to the faucial pillars; polypoid hypertrophy; fibrous variety. The buried tonsil; chronic hypertrophy of the lingual tonsil; adenoids. The radical and conservative schools. Constitutional treatment. Palliative methods. Medicinal treatment used. Sprays, anesthetic, cautery, argyrol, nitrate of silver, iodine, suprarenal extract. Operative interference. Instruments. Comparative value of methods of treatment. Conclusions.

Adjournment

SECOND DAY, FRIDAY, JUNE 12TH

8.30 A. M. STANDARD

1. Rectal Examination: Its Importance and Value in General Practice

LOUIS J. HIRSCHMAN, Detroit.

The proper examination of the rectum is very much neglected. The correct methods of rectal investigation and exploration are described and illustrated. The causes of obstipation, impeded defecation and various reflex disturbances are dwelt upon. A plea is made for more thoroughness in proctoscopy and anoscopy. Such therapeutic measures for the relief of pathologic conditions found in this region as can be readily carried out by the general practitioner are briefly outlined.

2. Skiascopy of the Heart

A. W. CRANE, Kalamazoo.

Factors in an X-ray examination of the heart: Displacement, size, form and movement. The visibility of the heart shadow is increased by deep inspiration, emphysema, cardiac hypertrophy and

dilatation; it is decreased by forced expiration, by adjacent pulmonary shadows, by oedema or congestion of the lungs, by general thickening of the pleura, by emphysema or effusion, and by very thick chest walls. Each factor will be considered so as to give the diagnostic points obtainable by the X-ray in affections of the heart.

3. On Ultra-Microscopic Organisms

F. G. NOVY, Ann Arbor.

Review of the work done in the study of pathogenic organisms which are smaller than any of the known bacteria; so small, indeed, as to be invisible under the highest powers of the microscope.

4. Modified Milk for the Babies of Detroit

COLLINS H. JOHNSTON, Grand Rapids.

The paper describes how Grand Rapids obtained a Walker-Gordan milk laboratory. What it does for the paediatrician, and what it has done for the entire milk supply of the city. Percentage feeding of infants. Some so-called objections to it.

5. Some Considerations upon Infant Feeding

ALEX. M. CAMPBELL, Grand Rapids.

The high infant mortality shows that infant feeding is an unsettled and difficult problem. The milk supply of cities, which should be largely under the control of the Board of Health. The percentage method of modifying Cow's Milk, as carried on by the Walker-Gordan Laboratories.

6. Demonstration of Specimens from the Pathological Exhibit

A. S. WARTHIN, Ann Arbor.

Adjournment to General Meeting

SECOND DAY, FRIDAY, JUNE 12TH

2 P. M. STANDARD

Election of Chairman, Secretary (for 2 years) and Orator of Section

1. Flatulence, Meteorism, Tympanites and their Treatment.

CHAS. D. AARON, Detroit.

Introduction and definition. General remarks. The origin of the gases. Importance of ascertaining the cause. Flatulence as an etiologic factor in appendicitis. Symptoms. The treatment divided into: Dietetic, medicinal and mechanical.

2. The Etiology and Treatment of Hyperacidity of the Stomach Contents

DAVID M. COWIE, Ann Arbor.

The frequency of this condition in students and teachers. In the treatment reference is made to diet, lavage and medicinal agents.

3. The Management of Small-Pox in Houghton County, with Report of 280 Cases

W. H. MATCHETTE, Hancock.

The first discovery of small-pox in the county. Description of subsequent method with legal act to authorize the County of Houghton to construct, or to purchase one or more hospitals, pest houses or quarantine buildings. The type of the disease

with statistics in various cities and states. Vaccination with statistics. A short description of the disease and its modified type.

4. Prevention of Gynæcic Evils

J. A. PORTER, Brooklyn.

Methods practiced to prevent conception; comparison of such acts with others in patriotism, sanitation, etc.; consideration of its moral as well as its physical effects. Venereal diseases. Conclusions based on reasons offered.

5. Differential Diagnosis of Typhoid Fever

W. A. FERGUSON, Sturgis.

Differential diagnosis of typhoid from other fevers; the morbid findings; the difference between typhoid of children and adults; the typhoid bacillus and the tests used.

6. Hyperemesis Gravidarum

LEO BREISACHER, Detroit.

Causes, frequency, and method of treatment. Report of a number of cases.

7. Report of a Case of Dermatitis, suspected to be Blastomycetic

WM. F. BREAKEY, Ann Arbor.

Results of microscopic and culture tests made to demonstrate the yeast fungus; the therapeutic effects of potassium iodide to prevent general infection; macroscopic appearance illustrated; history and characteristic behavior; consideration of supposed rarity of the disease; climatic and regional influences; differential diagnosis; pathology; prognosis and treatment.

8. Itching: Its Significance as an Exciting Factor. Measures used for its Relief

ANDREW P. BIDDLE, Detroit.

Description of the Senses. Relation of the sense of itching to common sensation. Itching at times irresistible. Other causative factors introduced by scratching. Measures used to control itching.

Adjournment

5. Some Conditions which influence the Use of the X-rays in the Treatment of Epithelioma.

WM. F. BREAKEY, Ann Arbor.

6. The Epiphyses from a Radiographic Standpoint (Illustrated by Lantern Slides)

PRESTON M. HICKEY, Detroit.

Adjournment

SECOND DAY, FRIDAY, JUNE 12TH

8.30 A. M. STANDARD

1. Electro-physics and their Application to the Scientific Treatment of Disease

C. L. BARBER, Lansing.

Electricity discussed as a persistent force, which is a part of the atomic structure of matter, and is the vital force so far as the elements now known are concerned; constant, and endowed at all times with an "electrical pull"—that influences protoplasm. Electrical ions act to keep in balance the functions of the human body as well as all other life processes. The knowledge and use of the action of electrical ions serve as a wonderful power and remedial agent in treating disease.

2. Report of Two Cases of Cancer of the Breast occurring in Women under twenty-five years of age

W. A. SPITZLEY, Detroit.

3. The Bougie-Catheter: An Apparatus for Use in Genito-Urinary Surgery

S. C. GRAVES, Grand Rapids.

4. The Surgical Treatment of the Fractured Spine; with a Report of four Cases

C. H. RODI, Calumet.

5. Surgery of the Mediastinum; with Report of the Successful Removal of a Tumor from the Anterior Mediastinum

H. O. WALKER, Detroit.

Adjournment to General Meeting

SECOND DAY, FRIDAY, JUNE 12TH

2 P. M. STANDARD

Election of Chairman, Secretary (for 2 years) and Orator of Section.

1. Only a Drop of Pus

F. J. W. MAGUIRE, Detroit.

2. Report of Five Rare Abdominal Cases:

- a) Rupture—Tubal Pregnancy (two cases)
- b) Resection of Intestine
- c) Caesarian Section
- d) Gastrostomy

I. N. BRAINERD, Alma.

3. Contribution to the Surgery of the Knee-joint

MAX BALLIN, Detroit.

4. Railway Injury to the Pelvis with Laceration of the Urethra

RALPH H. SPENCER, Grand Rapids.

SECTION ON SURGERY, OPHTHALMOLOGY AND OTOTOLOGY

FIRST DAY, THURSDAY, JUNE 11TH

2 P. M. STANDARD

1. Excision of Hemorrhoids

WM. L. DICKINSON, Saginaw.

2. A New Procedure for Avoiding Infection After Operation for Cataract

WALTER R. PARKER, Detroit.

3. The Omentum

W. H. HAUGHEY, Battle Creek.

Anatomic and Physiologic Considerations. Its liability to disease. Some peculiar functions in hernia, in pelvic lesions, and in injuries. As a surgical factor.

4. The Climacteric Tumors of the Breast

T. A. MCGRAW, Detroit.

5. Comparisons in Technic of Gastro-Enterostomy with Description of the McGraw Elastic Ligature S. E. SANDERSON, Detroit.
 6. Abuse of the Mechanical Treatment of the Middle Ear EMIL AMBERG, Detroit.
- General conditions to be considered. Nose, nasopharynx and throat should be carefully examined. Character of mobility of drum membrane should be established by Sigle's speculum. Necessity of examining the ear thoroughly, also as to its functions before undertaking treatment. Cases of so-called sclerosis of the middle ear engage our special attention. Over-treatment is contraindicated because injurious. Abuse of drugs. Treatment should be controlled continuously by hearing tests. Every detail should be carefully attended to and routine treatment should be avoided.

Adjournment

SECTION ON OBSTETRICS AND GYNECOLOGY

FIRST DAY, THURSDAY, JUNE 11TH

2 P. M. STANDARD

1. The Lacerated Cervix Uteri: Amputation or Trachelorrhaphy—Which?
H. WELLINGTON YATES, Detroit.
2. Prolapse of Uterus, Bladder and Vagina
J. G. LYND, Ann Arbor.
3. Ectopic Gestation with Report of Cases
WM. F. METCALF, Detroit.
4. Fibromata of the Vulva with Report of Case
T. S. BURR, Ann Arbor.
5. Ovarian Dermoids
R. E. BALCH, Kalamazoo.

Adjournment

SECOND DAY, FRIDAY, JUNE 12TH

8:30 A. M. STANDARD

1. Dilatation and Curettage
W. H. MORLEY, Ann Arbor.
2. A Case of Streptococcic-puerperal Infection, successfully treated, in which Serum Therapy was used
H. W. LONGYEAR, Detroit.
3. Removal of Appendix during Abdominal Section
J. H. CARSTENS, Detroit.
4. Uterine Fibroma as a Complication of Pregnancy
REUBEN PETERSON, Ann Arbor.

Adjournment to General Meeting

SECOND DAY, THURSDAY, JUNE 12TH

2 P. M. STANDARD

Election of Chairman, Secretary (for 2 years) and Orator of Section

1. The Sequelae of Lacerations of the Cervix
R. L. MORSE, Ann Arbor.
2. The Value of Conservative Operations on the Uterus and Appendices
W. P. MANTON, Detroit.
3. Endometritis—Both from a Surgical and Medical Standpoint
O. S. PHELPS, Battle Creek.
4. A Study in Cases illustrating points of Diagnosis in obscure Appendicial Diseases and others simulating Appendicitis
H. W. LONGYEAR, Detroit.
5. A Study of some difficulties in the use of the Obstetric Forceps
JAMES E. DAVIS, Detroit.

Adjournment

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AUXILIARY COMMITTEE TO COMMITTEE ON NATIONAL LEGISLATION, AMERICAN MEDICAL ASSOCIATION

EMIL AMBERG, Detroit.

*To Petition the Legislature for an Appropriation for the
Establishment of a properly equipped Sanitarium for the
Treatment of the Early Stages of Tuberculosis:*

V. C. VAUGHAN, Ann Arbor, *Chairman*.
 H. B. BAKER, Lansing.
 L. W. BLISS, Saginaw.
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ENTERTAINMENTS

Reception, Thursday Evening, June 11th, to the
Members and Ladies by the Wayne County Medical
Society, at 8.30 o'clock standard, at the Masonic
Temple.

HOTELS

Cadillac (Headquarters)

<i>Russell House</i>	<i>Normandie</i>
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MISCELLANEOUS

All Meetings are held on Central Standard Time
at the Masonic Temple, cor. Lafayette Ave. and
First Street.

The *Exhibits* will be found in the Masonic
Temple.—Good Elevator service.

All meetings will be called to order promptly on
time.

Each paper is limited to 15 minutes; each
discussion to 5 minutes.

Each member in attendance shall enter his name
in the Registration Book, indicating the County
Society of which he is a member. *Please do not
fail to register upon arrival at the Masonic Temple.*

*Only Members who are registered are entitled
to vote.*

The ballot box for the election of *President* will
be found at the Masonic Temple at the place of the
General Meetings. The polls close at 12 o'clock
noon, Standard, Friday, June 12th.

BY-LAWS—CHAPTER III, SECTION 5

All papers read before the Society shall be its
property. Each paper read shall be deposited
immediately with the Secretary, but the author
may also publish the same in any reputable
journal not published in this State, provided the
printed article bears the statement that it was
"read before the Michigan State Medical Society."

HOTEL CADILLAC, Headquarters

REDUCED RAILROAD FARES

A reduced railroad fare of one and one-third rate
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L. S. & M. S. Ry., from which the rate of fare
is two cents per mile, has been granted for mem-
bers and their friends attending the meeting of the
Michigan State Medical Society to be held at Detroit,
June 11-12.

A charge of 25 cents will be made at the
meeting by Special Agent for each certificate
issued by him.

For conditions see the program in "The Journal
of the Michigan State Medical Society," for May,
1903.

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Original Articles

IMPETIGO.*

WM. F. BREAKEY,
Ann Arbor.

The condition now known as impetigo is of such comparative simplicity, that I should not think it of enough significance to make it the subject of a paper before this Society, had not some cases come under my observation within the year, that were suspected to be smallpox. There were other similar cases in the vicinity, and the symptoms and appearance of these children warranted suspicion and isolation. There was a history of possible exposure. There had been two genuine cases of smallpox in the city and several in the country not long before.

A few days' time sufficed to determine the harmless character of the disease, and confirm opinion given on first seeing them;

*Read at the 37th Annual Meeting of the Michigan State Medical Society.

and successful vaccination, some weeks later, satisfied us of the correctness of the diagnosis. Chiefly because of the prevalence of smallpox in the State, however, the opinion was expressed by persons who did not see the cases, and by the health authorities of the State, doubting not only that the cases were impetigo, but also doubting that there were any cases of that disease in the State.

This opinion from such a source seemed to me to furnish a need for consideration of the subject, of its comparative prevalence and its differential diagnosis.

My own observations corresponded with my acquaintance with the literature on the subject, and had led me to believe it a quite common affection throughout the country, and that Michigan was not more exempt than other states of like inhabitants and climate.

I think I have seen cases in clinic or private practice every year for many years, and wishing to know if the region of Ann Arbor was peculiarly susceptible, I have

asked the opinion of medical friends in different parts of the State, as to its prevalence, and find their experience is substantially that of my own.

Relatively to all diseases of the skin in America, from records of American Dermatological Association, it is about 1.4 per cent. And this is probably too low an estimate.

One reason why it does not get into health reports more frequently doubtless is, because it is often so mild that no physician is called to attend many of the cases. And it is probably regarded by a large majority of both the profession and the laity as not "dangerous to public health."

Yet in some cases there is considerable fever, and an epidemic might become of such proportions as to break up schools, or cause needless alarm if patients are not isolated. And in times when communities are already excited over cases of actual or suspected smallpox, harmful panics may easily occur.

And if a diagnosis of smallpox is erroneously given, needless deprivation of liberty is caused, or if quarantined with genuine cases, patient may acquire in reality the disease he was mistakenly supposed to have. It is therefore evident that such cases should be promptly isolated until a diagnosis is established, and so long as they are infectious. This is the more necessary as the autoinoculable character of the infection may protract it in a given case indefinitely, while simple disinfection of the patient, his clothing, bedding, and quarters, may not only render the patient harmless as to others, but be all the treatment needed to remove the disease.

The lesions and symptoms to which Tillbury Fox, forty years ago, gave the

name "Impetigo Contagiosa," are practically regarded as impetigo, all cases being communicable under favoring conditions.

The severity of the systemic symptoms, the number, size, and character of lesions of the skin, denote difference in degree of infection or resistance, rather than different forms of infection. The lesions occur exceptionally on mucous surface of lips and mouth, as well as on cutaneous surface.

The disease occurs at all ages, in all classes and in both sexes; but is more frequently seen in children, especially those of uncleanly habits, poorly nourished, and in unhygienic surroundings. Such conditions lower the vitality and predispose a situation, which offers a culture ground very favorable for the growth of the pyogenic cocci so generally found on the skin of untidy persons. And with these latter conditions, otherwise comparatively healthy children, may be the subjects of this infection.

The lesions are discrete, though exceptionally they may coalesce—inoculable and autoinoculable. They are most frequently seen on the face, next on the hands and sometimes on the trunk. They appear after a variable period of incubation of about two weeks, as vesicles, vesicopustules, pustules and occasionally bullæ. The typical lesions vary in size from 1/10 to 3/10 inch, average about split pea size.

The vesicular stage is so brief in most cases as to make the lesions appear to be pustular from the first. In exceptional cases there are bullous lesions resembling herpes or pemphigus. The pustules quickly dry, forming a thick straw-colored crust, which soon loosens at the edges, giving the appearance of being "stuck on," and dropping off in a few days, leaving neither

ulcer nor scar, unless complicated by injury or other infection. The whole evolution being completed in about a week.

The cause of Impetigo is undoubtedly *pus cocci*.

Brockhart and others have demonstrated the presence of the staphylococcus and streptococcus.

Kaufman thinks it due to a particular staphylococcus and Sabaroud and other French authorities believe it due to streptococci infection, and others still, attribute it to different forms of cocci, from which it may be inferred that the precise form of bacterium is not determined. And from a practical view point, it is not important whether effects are due to varied forms of micro-organisms, or to the environment and susceptibility of the individual to one form, somewhat as the same vaccine virus affects different persons differently.

Lesions may follow the bite of animal parasites.

It is very liable to follow specific fevers during or after convalescence; and Duhring and Fox report cases following vaccinia. Jackson thinks this has suggested the possible connection between impetigo and vaccinia. It is probable that this is a coincidence rather than a cause; that the broken or unhealed skin lesions of other diseases furnish opportune conditions for growth of bacteria found in impetigo.

The diagnosis is not difficult when eruption is fully developed, and history can be relied on, but in any case of uncertainty sufficient time should be taken to make sure. It should be remembered that the lesions of impetigo are wholly in epidermal layers. While most pustular diseases, such as sycosis furunculosis, pus-

tular and indurated acne, variola and some lesions of varicella involve the true skin and sometimes the subjacent connective tissue, and have a pronounced papular stage. Further, sycosis barbae show tinea trichophyton, and the furuncle has the characteristic slough.

The grouped Herpetic Vesicles of Zoster follow track of distribution of definite superficial nerves, and if not broken, rarely suppurate.

The skin lesions of syphilis in efflorescent stage are general and symmetrical, and uniform in evolution, rarely vesicular or pustular. Pustular eczema is distinguished by wide distribution of lesions, papular and vesicular stages, duration, and chronicity.

Pemphigus has larger bullae, affects adults chiefly, and usually begins in extremities and may extend until it covers the whole body, is not contagious, prolonged and often recurs. Scabies and dermatitis each have distinct individual traits.

While it is most important that it be safely differentiated from variola, fortunately this is not difficult.

The difference in history, the less marked prodroma in impetigo, the limitations of lesions to regions, but most important of all the ununiform development and evolution of lesions; there being found vesicles pustules, and drying crusts with loosening edges, and the characteristic "stuck on" appearance, and macular stains, all at one time, due to auto-inoculation and recurrence of infection, make a chain of evidence of convincing strength.

Every suspected case should be isolated a sufficient time to determine diagnosis, and after complete recovery patient should be vaccinated unless it had previously been

done, as a further corroborative diagnostic measure.

From varicella it is differentiated with more uncertainty. In varicella the vesicles being more distinct and of longer relative duration, and preceded by more systemic disturbance, lesions more grouped, situated more on chest and trunk and recurring in groups and crops, more macular, and sometimes pits.

The lesions of impetigo are as a rule larger, the crusts thicker, and evolution of individual lesions shorter. All lesions may be complicated by scratching.

As to management but little need be said.

The indications for treatment obviously call for disinfection of whole body and frequent changes of clean underclothing and bedding, a protective covering of mild antiseptic dressing to such crusts as need it, the patient's hands kept clean and nails cut short.

Improvements in sanitary conditions, and tonics in the widest sense, including sunlight and good air, to the feeble and cachectic. Whether such cases should be reported to the Health Officer is worth considering.

In prevalence of other diseases of the skin required to be quarantined, and placarded, it would lessen anxiety and fear in communities to have all suspicious cases investigated and diagnosis satisfactorily determined.

THE ETIOLOGY OF PELVIC INFLAMMATORY DISEASES.*

RICHARD R. SMITH,
Grand Rapids.

The term "pelvic inflammatory diseases" is a rather vague one, but is used in this paper, for want of a better, to mean those inflammatory diseases which affect the tubes, ovaries, pelvic cellular tissue and pelvic peritoneum.

We may regard the matter of etiology from two standpoints, either we may study the bacteria, or active causes, or we may study the conditions which pave the way for their entrance. It is very necessary, I think, that we have clearly in mind, not only the nature of these various bacteria, but also their mode of invasion, and particularly the factors which make the infection by them possible. These diseases are important not only as affecting the life and health of our women, but also as a sociological problem affecting the fertility of the race. According to statistics, more than half the cases of sterility in women are due to salpingitis.

There has been a marked tendency during the past decade to hold the gonococcus responsible for nearly if not all of these lesions. That gonorrhea plays a very important role, is true, but it is equally true that other bacteria are frequently the cause. It is impossible to state the exact proportion in which gonorrhea is the causative factor, unquestionably the gonococcus is more often present than any other germ. Among other bacteria that have been found are the streptococcus, staphylococcus, and the tubercle bacillus. Other bacteria which have been infrequently found are the diplococcus pneumoniae of Fränkel-Weichselbaum, bacterium coli communis and pneumo bacillus of Friedländer.

Bacteria may gain entrance to the inner pelvic structures through the uterus, the neighboring organs (as the appendix),

*Read at the 37th Annual Meeting of the Michigan State Medical Society.

from the peritoneal cavity, or through the blood. The gonococcus, although it may progress by continuity and infect deeper structures, has a strong tendency to infect by progressing along the mucous membranes. We find, then, that it gains entrance to the pelvic structures through the mucous membrane of the uterus and tubes. The streptococcus may progress from the uterus directly to the tube, but as a rule advances by the lymphatics of the cellular tissue, pelvic peritoneum, tube and ovary. The staphylococcus when it advances as far as this, advances also in about this order. Although the uterus is the commonest avenue, streptococci may gain entrance through other organs, the most frequent of which is the appendix vermiformis. The tubercle bacillus probably enters in the vast majority of instances from the peritoneum through the abdominal ostium of the tube. Certain other bacteria have doubtless gained entrance through the blood.

If we now ask ourselves, what are the conditions under which infection takes place, what are their order of frequency, we may answer as follows: First, impure sexual contact (gonorrhea); second, abortion and labor; third, appendicitis; fourth, tuberculosis of other organs; fifth, the introduction of unsterile instruments into the vagina and uterus.

When we review the above facts, we are at once impressed with the idea that these serious diseases follow the introduction into the genital tract of infectious substances. Nature has guarded well against infection when conditions are normal. Normal menstruation and coitus, abortion and labor uncontaminated by the introduction of instruments and fingers proceed without the slightest danger in this regard, but nature cannot cope with

the gonococcus, and she is equally as helpless when other infections are introduced. The prevention, then, of these troubles, can be said to be possible and it would seem to be a problem which is by no means beyond solution. I believe that we will see a decided diminution in the number of cases of gonorrhea when the public has been taught to recognize the nature, gravity, and far reaching evil results of this, what was formerly supposed to be, a most simple matter. This teaching must come through the medical profession. More easily within our reach are those cases in which the physician himself is responsible for the introduction of the infection and doubtless the improved technique in dealing with puerperal cases will bring results. The modern habit of treating slight female ailments by means of tampons and the introduction into the uterus of instruments and solutions, has also been a source of most serious trouble. Local treatments, so called, are fortunately on the decline, owing largely, perhaps, to their inefficiency. There has been also, a considerable improvement in such manipulations as are undoubtedly sometimes necessary. The performance of minor surgical operations has not been unattended with serious consequences to the inner pelvic structures in certain cases. For instance, the repairing of the cervix and the blocking up of the uterine secretions in the presence of a septic endometritis.

Much is being done to-day for women suffering from pelvic diseases, but it has seemed to me that the matter of prevention has hardly kept pace with our other acquired knowledge. We will hardly have done our duty until our knowledge of the nature of these diseases has been practically applied and the diseases themselves prevented.

THE CONSERVATIVE TREATMENT OF PELVIC INFLAMMATORY DISEASES.*

R. E. BALCH,
Kalamazoo.

It is only within the last ten or twelve years that the surgeon, working in the female pelvis, has given any thought in regard to the ovaries, aside from their function of reproduction, and even that was lost sight of to such an extent that the obstetrician feared to send his cases to the gynecologist, for when the latter returned them they were of about as much use to an obstetrician as an empty pocket-book to a starving man.

But aside from the function of ovulation, there is the rapidly growing conviction among physicians that the ovary secretes a substance which, being absorbed into the system, maintains that physiological and psychological balance that is so essential to the happiness and well being of the female sex.

This has been partially proven by feeding to women suffering from an induced climacteric, the dried extract of ovaries removed from the lower animals. In many cases this has given good results, relieving them from many of the nervous symptoms which make their lives almost unbearable. Unfortunately this branch of therapeutics has fallen into the hands of quacks, with the result that reputable physicians fear to advocate its use. Also the benefit derived from castration in cases of osteomalacia shows absolutely that the ovaries have a marked action upon the excretion of the lime salts, and especially the phosphates.

*Read at the 37th Annual Meeting of the Michigan State Medical Society.

There probably are few surgeons here to-day who have not at present under their care one or more women suffering from a suddenly induced menopause. Of course, in some cases this cannot be avoided, but in the majority of cases a small portion of at least one ovary can be saved. This will not only preserve to the woman her monthly flow, but unless otherwise informed by her physician she will continue in the belief that she may become pregnant, even though both tubes have been removed.

This belief, I think, should be encouraged, except in those cases where the patient knows that pregnancy would endanger her life.

In other words, do not let her dwell upon the thought that she is in any way unsexed, for I firmly believe that nearly all women of good character dread the thought of losing their power of reproduction fully as much as do the opposite sex.

Dr. Howard Kelly, of Johns Hopkins, gives the following conditions for which conservative operations upon the ovary may be practiced:

1st. The ovary should never be removed for purely technical reasons, as in tubal disease, hystero-myomectomy, parovarian cyst, etc., in which the ovary itself is not diseased.

2nd. Ovarian Adhesions.—These, no matter how dense, can in nearly every case be broken up by careful dissection, and the ovary saved. In freeing the ovary one point should be borne in mind—always begin from below the ovary when possible, as there is less likelihood of tearing the organ in this way.

3rd. Single and Multiple Graafian Cysts.—The term cystic ovaries has long

been an excuse for the removal of ovaries which were practically normal. Where the cysts are small, a simple puncture is all that is necessary. Where the cyst attains the size of a walnut or larger, it may be simply ruptured and allowed to collapse, or the cyst may be dissected out. Dr. Kelly recommends aspiration through the vaginal vault.

4th. Cysts of Corpus Luteum.—These are merely corporalutea which have not ruptured and which have reached an abnormal size. Their treatment differs in no respect from that of Graafian cyst.

5th. Hematoma of the Ovary.—It is seldom that both ovaries are involved in these cases. The affected part should be cut away and the remaining sound portion of the ovary closed by suture.

6th. Dermoid Cysts.—In this class of cases authorities differ; many claim that the entire ovary should be sacrificed. In the literature bearing upon the subject I find four cases reported of dermoid cysts involving both ovaries, in which conservative treatment was practiced. In each case there was a large cyst on one side and a small one about the size of a walnut involving the opposite ovary. In each case the larger tumor was removed with the ovary, while the smaller one was excised from the sound ovarian tissue and the resulting wound closed by a continuous catgut suture. Two years later there had been no recurrence, but each woman had become pregnant.

7th. Large Ovarian Cystomata.—In these cases the ovary is so involved that it is impossible in most cases to save any of the diseased organ.

8th. Ovarian Abscess.—In a few cases the ovary may be saved by opening the abscess, cleansing and curetting out the lining membrane.

Conservatism in tubal disease, although not as essential to the patient's health, is of fully as much importance when the possibility of future pregnancy is considered.

In a case of tubal abscess the majority of surgeons consider themselves conservative if they leave the ovary after removing the tube, but that a tube the seat of an abscess may regain its proper function is proven by several cases reported in the last few years. Perhaps the most remarkable is one reported by Dr. MacMonagle. Patient 24 years old, married three years without pregnancy, pelvic abscess discharging at intervals through the rectum.

Operation: Abdomen opened, mentum adherent to uterus and neighboring parts, right tube and ovary adherent to bowel and broad ligament. Cyst of the ovary. Right ovary, cyst and tube removed. On the left side the pus tube connecting with bowel was opened, followed by a sharp hemorrhage. This was checked by ligature, and the free portion of the tube removed. The abdominal incision closed with glass tube drain.

There was thus left in the pelvis the left ovary and the proximal end of the left tube, which had been the seat of the abscess. Yet within two years she became pregnant and gave birth to a child.

Dr. Polk reports the following case: Patient 22 years. Right ovary, seat of large hematoma, was removed, with the tube. Left ovary normal, left tube seat of hemato-salpinx. Ovary left in situ, tube removed about one inch from uterus. Opening in tube stitched as near to ovary as possible. Two years later gave birth to a healthy male child.

Dr. B. F. Baer reports the following: Patient 32 years old, uterus bound down

by dense bands of adhesions; left ovary and tube were so firmly adherent that they had to be removed piecemeal. In dissecting out the right side the tube was torn off 5 centimeters from the uterus. The ovary was freed as well as possible and the stump of the tube left. Fifteen months later a child was born.

Dr. W. L. Burrage, of Boston, in the *Medical News* of April 13, 1901, reports the case of a woman who has become pregnant twice after complete removal of both tubes and one ovary. The mucous membrane of the tube being sutured to the outer serous covering.

That the tube and ovary need not be saved in pairs is proven by a case reported by Dr. Kelley, in which he removed the right tube and left ovary. Within a year she became pregnant and gave birth to a healthy child.

The treatment of pelvic abscess brings up once more the question of vaginal versus abdominal drainage. Which is the more conservative? Personally, I am a firm believer in vaginal drainage. But I also think that when the patient's condition is such that she can withstand the shock of a laparotomy the abdomen should be opened and the pelvis thoroughly explored from above. In this way we can locate the trouble with greater accuracy, and many times pockets of pus will be found that could not be felt by bi-manual examination. The posterior fornix can then be opened by an assistant, and, guided by the operator's hand in the pelvis, all pockets can be thoroughly opened and drained.

In cases of pyosalpinx where the tube is small and comparatively free in the pelvis, most of us, I think, will consider that we are doing our patient the most

good by a clean resection of the diseased tube. But if the woman insists upon being given a chance for a future pregnancy, the tube may be opened along its posterior border, thoroughly cleansed and dropped back into the pelvis upon a strip of gauze, one end of which is carried into the vagina through an opening in the posterior fornix; the gauze to be removed in from four to seven days.

This method is recommended by Dr. Kelly, but is condemned by Dr. E. C. Dudley, as he recently lost a case from general peritonitis which he had treated in this way.

BOILING AS A METHOD OF STERILIZING CATHETERS.*

C. B. NANCREDÉ and W. H. HUTCHINGS,
Ann Arbor.

A ready, thoroughly reliable method of sterilization of catheters which the inexpert as well as the expert can use, and which can be adopted for all varieties of catheters without requiring the employment of cumbersome apparatus or the expenditure of much time, is one of the greatest desiderata in surgery.

None can question that caloric in sufficient quantity and applied for a proper length of time to each and every germ is the most certain germicide, although many chemicals will destroy some bacteria and inhibit the growth of others with sufficient certainty to be reliable when proper time and facilities exist for their employment. In a former paper we demonstrated that all varieties of catheters can be repeatedly boiled for any length of time requisite to secure absolute sterilization,

*Read at the 37th Annual Meeting of the Michigan State Medical Society.

provided proper precautions were taken. In these experiments, however, germs cultivated for many generations in the laboratory were employed, and all experimenters recognize that micro-organisms thus treated become less virulent than those of the same species actually obtained from the living tissues of the human or animal body.

In consequence, germs obtained by cultures from actual cases of cystitis, and colon germs taken from cases of appendicitis, etc., were employed, with the expected result, viz., that they were more resistant, yet readily destroyed by a longer exposure to heat.

Again, catheters used to irrigate infected bladders, and others tied in in cases of cystitis, were experimented with. These showed that it is more difficult to sterilize catheters clinically infected than those artificially infected.

The fact that the larger the size of the catheter the more quickly was heat sterilization effective led to a most important practical discovery, as is shown in experiments 84-91. These demonstrate that when catheters quickly subside to the bottom of the vessel all, or nearly all, air is expelled from their lumina, hence all germs are promptly subjected to moist heat; and second, that smaller calibered instruments require a longer time to sterilize, because it is more difficult to get all air out of their interiors. These observations serve to explain the differences in time stated by observers as requisite for certain sterilization, as well as for discrepancies in our own observations. It has always seemed peculiar that streptococci, staphylococci and the colon bacillus, none of which can withstand boiling water, still maintain their vitality in some

cases in catheters boiled even so long as twenty minutes. This was formerly solely explainable by the assumed imprisonment of germs in dried pus, blood or mucus, so that the moist heat took a longer time than usual to reach them; or where chemical germicides were employed, that these were decomposed or never reached the interior of minute masses of pus, etc.—one of the chief objections to chemical sterilization. Air in a catheter will for long periods only permit the exposure of germs to a comparatively low and absolutely inert temperature, and prevents the softening down and penetration of dry pus, blood or mucus by caloric.

The discovery of the fact that even after filling with ordinary tap water, i. e., that which adds additional germs but which expels all air, one-fourth of the time only is requisite to sterilize badly infected catheters, removes the last vestige of objection to boiling by reducing the period requisite. Guyon contends that without preliminary cleansing half an hour's boiling is requisite to obtain sterilization; we have shown that, provided air be expelled from the interior of the catheter, ten minutes will invariably suffice with the most seriously infected instrument.

It being in many instances impossible to wait for 24 to 48 hours for the formalin disinfection, even if the necessary apparatus were obtainable, it is clear, for emergency work, this method is out of court; while chemical sterilization (see Exp. first paper) requires a prolonged sojourn of the instrument in the solution, which, in the case of the English catheter, if repeated frequently, soon destroys the polish of its surface.

As a preliminary to the conclusions warranted by the present paper, it may

be as well to quote those reached as the result of our first experiments. This is all the more advisable as we refer to them in the final conclusions of our present communication.

1. An infected rubber catheter cannot be completely sterilized by boiling under four and one-half minutes (i. e., after artificial infection with attenuated germs).

2. Mechanical cleansing from all dried pus, coagulated blood or mucus will render sterilization easier and will demand a shorter time to be effective.

3. Elastic (English web) catheters and soft rubber catheters can be repeatedly boiled for five or more minutes without roughening of their surfaces or diminution of their elasticity and strength.

4. Chemical sterilization by immersion in a 1-2000 mercuric chloride solution for five minutes does not sterilize any variety of catheter which has become infected, at best only inhibiting the growth of the germs; for if the mercuric salt be precipitated by ammonium sulphide the germs will grow freely when implanted in culture media, as shown in Experiments 60 to 63.

6. Should corrosive sublimate be employed for the sterilization of catheters, it must be in a concentrated solution, and the catheter must remain in it for a much longer time than the usual period considered amply sufficient in the laboratory, no mere washing with any chemical solution being efficient for an infected instrument.

7. Formalin vapor will sterilize infected instruments in twenty-four hours (see Experiment 64); how much shorter time will be sufficient we have not as yet determined, but propose to do so in the future.

8. All methods of sterilization commonly employed should be continued for much longer periods than the minimum

time required for destruction of germs in the laboratory.

9. English web catheters can apparently be more readily sterilized by heat than can soft rubber catheters, probably on account of their interior construction.

In commenting upon these tentative conclusions which we believe our experiments warrant us in drawing, we would point out that the germs employed are probably even less resistant to sterilizing agents than are those of the same species actually contaminating catheters which have been employed for cases of cystitis, because of the well-known loss of virulence of germs long cultivated upon artificial media. We propose to remedy this defect in our future experiments by procuring germs from actual cases of cystitis.

Our present conclusions are as follows:

1. Although the washing with warm soapsuds is an absolute prerequisite to most methods of chemical sterilization and is an excellent precaution in the method of employing caloric, we recommend it is not necessary, as shown by Experiments 84-91, where no difference was observed in the time and thoroughness of sterilization when this precaution was omitted when compared with Experiments 78-83, where previous washing was done.

2. One of the chief obstacles in the way of catheter sterilization has always been the oily lubricants; the boiling temperature promptly liquifies the vaseline usually employed, which will be seen floating upon the surface of the fluid, mechanically carrying away with it numerous germs mingled or adherent to the cold, semi-solid lubricant.

3. In our first paper we showed that the English catheter was more readily sterilized than the soft rubber instruments,

and, what is of greater importance, can be repeatedly boiled without material damage, if proper precautions are taken.

4. Experiment 65 (first paper) shows that the English web catheter can be boiled for any length of time without damage in a saturated solution of ammonium sulphate. As this boils at 104° C., it is superior to plain water; but subsequent washing in sterilized water is requisite to remove the crystals of the salt which are deposited on cooling.

5. The only precautions requisite in boiling English catheters in plain water is to prevent their coming directly in contact with the bottom of the vessel in which they are boiled, by enveloping them in gauze or a towel.

6. Finally, these numerous experiments incontestibly prove that caloric can be successfully employed for all varieties of catheters with the exception of the soft French instrument, provided all air is expelled from the interior; (2) that this essential having been secured, although in the great majority of cases five minutes' immersion in water which is actually boiling will suffice, ten minutes of actual ebullition should be employed, especially for the smaller calibered instruments; and (3) that a previous cleansing with warm soapsuds is desirable although not essential, reducing as it does the time of exposure requisite to sterilize the instruments. As previously stated, the employment of a saturated solution of ammonium sulphate is desirable for English catheters, but is not essential and detracts from the simplicity of the method.

EXPERIMENTS.

The lubricant in all cases was vaseline which had been sterilized by heating and placed in collapsible tubes while very hot.

Each catheter, after being used in the infected bladder, was placed in a sterile Petri dish and allowed to become thoroughly dry. It was then removed and subjected to the sterilizing process, after which it was placed in boullion and incubated twenty-four hours. If no germs were present at the end of this time it was considered sterile. The receptacles used were fourteen-inch ignition tubes. These will contain the catheter without any kinking, while it can be transferred from the boiling water to the boullion with less danger of contamination. The boullion had in all cases been previously incubated twenty-four hours at 38° C. Controles were made in every experiment.

Experiment 1. Catheter inoculated with pure culture of colon bacillus, obtained from appendiceal abscess, allowed to dry, after which it was immersed in boiling sterile water one-half minute. It was then placed in boullion, incubated at 38° for 24 hours, at the end of which time it was sterile.

Exp. 2. Catheter treated as in Exp. 1, boiled 1 minute. Negative.

Exp. 3. Catheter treated as in Exp. 1, boiled $1\frac{1}{2}$ minutes. Negative.

Exp. 4. Catheter treated as in Exp. 1, boiled 2 minutes. Negative.

Exp. 5. Catheter treated as in Exp. 1, boiled $2\frac{1}{2}$ minutes. Positive.

Exp. 6. Catheter treated as in Exp. 1, boiled 3 minutes. Positive.

Exp. 7. Catheter treated as in Exp. 1, boiled $3\frac{1}{2}$ minutes. Negative.

Exp. 8. Catheter treated as in Exp. 1, boiled 4 minutes. Negative.

Exp. 9. Catheter treated as in Exp. 1, boiled $\frac{1}{2}$ minute. Positive.

Exp. 10. Catheter treated as in Exp. 1, boiled 1 minute. Positive.

Exp. 11. Catheter treated as in Exp. 1, boiled $1\frac{1}{2}$ minutes. Negative.

Exp. 12. Catheter treated as in Exp. 1, boiled 2 minutes. Positive.

Exp. 13. Catheter treated as in Exp. 1, boiled $2\frac{1}{2}$ minutes. Positive.

- Exp. 14. Catheter treated as in Exp. 1, boiled 3 minutes. Negative.
- Exp. 15. Catheter treated as in Exp. 1, boiled 5 minutes. Positive.
- Exp. 16. Catheter treated as in Exp. 1, boiled 5 minutes. Positive.
- Exp. 17. Catheter treated as in Exp. 1, boiled 5 minutes. Positive.
- Exp. 18. Catheter treated as in Exp. 1, boiled 5 minutes. Positive.
- Exp. 19. Catheter treated as in Exp. 1, boiled 5 minutes. Negative.
- Exp. 20. Catheter treated as in Exp. 1, boiled 5 minutes. Negative.
- Exp. 21. Catheter treated as in Exp. 1, boiled 6 minutes. Negative.
- Exp. 22. Catheter treated as in Exp. 1, boiled 6 minutes. Negative.
- Exp. 23. Catheter treated as in Exp. 1, boiled 6 minutes. Negative.
- Exp. 24. Catheter treated as in Exp. 1, boiled 6 minutes. Negative.
- Exp. 25. Catheter treated as in Exp. 1, boiled 6 minutes. Negative.
- Exp. 26. Catheter treated as in Exp. 1, boiled 6 minutes. Negative.

Experiment 27. Catheter used to irrigate bladder infected with colon bacillus was allowed to dry, after which it was boiled 5 minutes, placed in sterile bouillon, incubated at 38° for 24 hours. Result, positive.

- Exp. 28. Catheter treated as in Exp. 27, boiled 6 minutes. Negative.
- Exp. 29. Catheter treated as in Exp. 27, boiled 6 minutes. Negative.
- Exp. 30. Catheter treated as in Exp. 27, boiled 6 minutes. Negative.
- Exp. 31. Catheter treated as in Exp. 27, boiled 6 minutes. Negative.
- Exp. 32. Catheter treated as in Exp. 27, boiled 6 minutes. Negative.
- Exp. 33. Catheter treated as in Exp. 27, boiled 7 minutes. Negative.
- Exp. 34. Catheter treated as in Exp. 27, boiled 8 minutes. Negative.
- Exp. 35. Catheter treated as in Exp. 27, boiled 9 minutes. Negative.
- Exp. 36. Catheter treated as in Exp. 27, boiled 10 minutes. Negative.
- Exp. 37. Catheter treated as in Exp. 27, boiled 11 minutes. Negative.
- Exp. 38. Catheter treated as in Exp. 27, boiled 12 minutes. Negative.

Experiment 39. Catheter used to irrigate bladder infected with streptococcus pyogenes and colon bacillus. Allowed to dry in sterile dish, after which it was immersed in boiling water 10 minutes, incubated at 38° for 24 hours, at the end of which time the result was positive.

- Exp. 40. Catheter treated as in Exp. 39, boiled 10 minutes. Positive.
- Exp. 41. Catheter treated as in Exp. 39, boiled 10 minutes. Positive.
- Exp. 42. Catheter treated as in Exp. 39, boiled 10 minutes. Positive.
- Exp. 43. Catheter treated as in Exp. 39, boiled 15 minutes. Negative.
- Exp. 44. Catheter treated as in Exp. 39, boiled 15 minutes. Negative.
- Exp. 45. Catheter treated as in Exp. 39, boiled 15 minutes. Positive.
- Exp. 46. Catheter treated as in Exp. 39, boiled 15 minutes. Negative.
- Exp. 47. Catheter treated as in Exp. 39, boiled 15 minutes. Negative.
- Exp. 48. Catheter treated as in Exp. 39, boiled 15 minutes. Negative.
- Exp. 49. Catheter treated as in Exp. 39, boiled 15 minutes. Negative.
- Exp. 50. Catheter treated as in Exp. 39, boiled 15 minutes. Negative.

Experiment 51. Catheter used to irrigate bladder infected with colon bacillus and staphylococcus pyogenes aureus, allowed to dry, immersed in boiling water 10 minutes, after which it was incubated in bouillon at 38° for 24 hours, at the end of which time it was positive.

- Exp. 52. Catheter treated as in Exp. 51, boiled 10 minutes. Positive.
- Exp. 53. Catheter treated as in Exp. 51, boiled 10 minutes. Positive.
- Exp. 54. Catheter treated as in Exp. 51, boiled 10 minutes. Positive.
- Exp. 55. Catheter treated as in Exp. 51, boiled 15 minutes. Negative.
- Exp. 56. Catheter treated as in Exp. 51, boiled 15 minutes. Negative.
- Exp. 57. Catheter treated as in Exp. 51, boiled 15 minutes. Negative.
- Exp. 58. Catheter treated as in Exp. 51, boiled 15 minutes. Negative.
- Exp. 59. Catheter treated as in Exp. 51, boiled 15 minutes. Negative.

- Exp. 60. Catheter treated as in Exp. 51, boiled 15 minutes. Negative.
- Exp. 61. Catheter treated as in Exp. 51, boiled 15 minutes. Negative.
- Exp. 62. Catheter treated as in Exp. 51, boiled 20 minutes. Positive.
- Exp. 63. Catheter treated as in Exp. 51, boiled 20 minutes. Positive.
- Exp. 64. Catheter treated as in Exp. 51, boiled 20 minutes. Positive.
- Exp. 65. Catheter treated as in Exp. 51, boiled 20 minutes. Negative.
- Exp. 66. Catheter treated as in Exp. 51, boiled 20 minutes. Negative.
- Exp. 67. Catheter treated as in Exp. 51, boiled 20 minutes. Positive.
- Exp. 68. Catheter treated as in Exp. 51, boiled 20 minutes. Positive.
- Exp. 69. Catheter treated as in Exp. 51, boiled 20 minutes. Positive.
- Exp. 70. Catheter treated as in Exp. 51, boiled 20 minutes. Negative.
- Exp. 71. Catheter treated as in Exp. 51, boiled 20 minutes. Positive.
- Exp. 72. Catheter treated as in Exp. 51, boiled 20 minutes. Positive.
- Exp. 73. Catheter treated as in Exp. 51, boiled 20 minutes. Negative.
- Exp. 74. Catheter treated as in Exp. 51, boiled 20 minutes. Negative.
- Exp. 75. Catheter treated as in Exp. 51, boiled 20 minutes. Negative.
- Exp. 76. Catheter treated as in Exp. 51, boiled 20 minutes. Positive.
- Exp. 77. Catheter treated as in Exp. 51, boiled 20 minutes. Positive.

Experiment 78. Catheter used to irrigate bladder infected with streptococcus pyogenes and colon bacillus. Was washed thoroughly in a strong soap solution made in warm sterile water, after which it was boiled 5 minutes, placed in bouillon and incubated at 38° for 24 hours, at end of which time it was negative.

- Exp. 79. Catheter treated as in Exp. 78, boiled 5 minutes. Negative.
- Exp. 80. Catheter treated as in Exp. 78, boiled 5 minutes. Negative.
- Exp. 81. Catheter treated as in Exp. 78, boiled 5 minutes. Negative.
- Exp. 82. Catheter treated as in Exp. 78, boiled 5 minutes. Negative.
- Exp. 83. Catheter treated as in Exp. 78, boiled 5 minutes. Negative.

Experiment 84. Catheter used to irrigate bladder infected with streptococcus pyogenes and colon bacillus, was filled with tap water, care being taken to expel all air from its lumen. No effort was made at mechanical sterilization. The ends were clamped with sterile clamps. It was then immersed in boiling water for 5 minutes, incubated in bouillon at 38° for 24 hours, at end of which time it was sterile.

- Exp. 85. Catheter treated as in Exp. 84, boiled 5 minutes. Negative.
- Exp. 86. Catheter treated as in Exp. 84, boiled 5 minutes. Negative.
- Exp. 87. Catheter treated as in Exp. 84, boiled 5 minutes. Negative.
- Exp. 88. Catheter treated as in Exp. 84, boiled 5 minutes. Negative.
- Exp. 89. Catheter treated as in Exp. 84, boiled 5 minutes. Negative.
- Exp. 90. Catheter treated as in Exp. 84, boiled 5 minutes. Negative.
- Exp. 91. Catheter treated as in Exp. 84, boiled 5 minutes. Negative.

Experiment 92. English catheter tied in urethra and bladder of external urethrotomy. Left in place five days, at end of which time it was removed, dried in sterile dish, boiled 5 minutes (care being taken to expel all air from its lumen), and incubated at 38° in sterile bouillon. At the end of 24 hours there was no growth.

- Exp. 93. Catheter treated as in Exp. 92, boiled 10 minutes. Negative.
- Exp. 94. Catheter treated as in Exp. 92, boiled 15 minutes. Negative.
- Exp. 95. Catheter treated as in Exp. 92, boiled 5 minutes. Negative.

MYDRIATICS IN REFRACTION OF PRESBYOPES.*

O. A. GRIFFIN,
Ann Arbor.

Since the introduction of cycloplegics into refractive work, there has strange-

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ly existed, among ophthalmologists, a great diversity of opinion as to the necessity and advisability of employing these drugs as an aid in the determination of ametropic conditions. These contentions have been confined more particularly to the propriety of their use in the refraction of adults, while their employment in testing the presbyopic ametropes seems to be quite generally regarded as not only superfluous but attended with risk of inducing a glaucomatous condition. With a view of eliciting an animated discussion upon these points, I beg to present a few remarks upon the use of mydriatics in the refraction of presbyopic eyes.

When a patient presents himself for relief from an ametropic eye-strain, be he young or old, the same difficulties of making an accurate estimation of the refractive condition of the eye, without the aid of a mydriatic, obtain to a greater or less degree. The variability in refraction of an accommodating eye, the dependence of a subjective test upon the uncertainty of a patient's judgment, the frequent latency of hyperopic conditions, the fact that a sphere will improve to a certain extent the vision in astigmatism (although this phenomenon is denied by many writers upon refraction), the additional observation that 90 per cent. of my refractive cases are astigmatic, one-quarter of a diopter or more, and, most important, an inability of properly employing the objective tests as a means of corroboration, have convinced me, after making several thousand refractions, that the aid of a cycloplegiac is not only necessary to the accomplishment of an accurate refraction of the young adult, but may be frequently employed with profit in the testing of presbyopic ametropes. Frequently is the state-

ment made that it is not necessary to correct the smaller degrees of astigmatism when prescribing for an ametropic defect in the presbyopic. Such reasoning seems to me pregnant with anything but logical thought. With as much propriety might a physician consider his duty performed after administering a quieting potion to relieve a chronic disorder. If it is necessary to correct an ametropia at all, why burden a patient with a glass that removes only a portion of his trouble, when every vestige of strain and discomfort might be eradicated thereby? It is frequently the presence or absence of these small defects that decides the comfort of many a patient.

To briefly illustrate the validity of my position with reference to this subject, I will cite a few instances in which a satisfactory refraction was not obtained until a mydriatic was used, when both the subjective and objective methods of testing were employed, the findings of the latter being usually preferred.

Case 1. Mrs. C. R. W., age 49, consulted me for the relief of marked refractive symptoms from which she had suffered for several years, although she had repeatedly been fitted with glasses by different oculists. Vision was normal, conjunctiva chronically injected, blepharitis marginalis present, and general health greatly impaired. When she called upon me she was wearing +1.00 sph. before each eye. Without a mydriatic she accepted O. D. +1.00, sph. +0.25, cyl. ax. 60; O. S. +1.00, sph. +0.25, cyl. ax. 120. Not obtaining complete comfort from the use of these lenses, the eyes were homatropinized, when +0.75, sph. +0.50, cyl. ax. 60 was selected for the right eye, and +0.88, sph. +0.37, cyl.

ax. 120 for the left, which was worked out principally by means of the skiascope, as the subjective tests were uncertain. An additional +1.50 sph. was given for her reading, with instructions to wear the distance glasses constantly. Though several years have elapsed, this same ametropic correction is being worn with complete satisfaction, and attended with a marked improvement of her physical condition.

Case 2. Mrs. R. C., age 66, was referred to me by her physician for refraction. She had been unable to obtain relief from constant headaches and blurring of print, from which she had suffered for two years, although she had worn several different lenses. Vision in O. U., 20/60, was improved to 20/20 by a +2.25 sph., which she was wearing. A subjective test, without a mydriatic, was attended with uncertainty as to the exact amount and axis of the existing astigmatism. Under homatropin both of these points were decided without any difficulty, when she accepted in O. D. +2.00 sph. +0.75 cyl. ax. 180, and in O. S. +2.00 sph. +0.50 cyl. ax. 180, which was corroborated by the shadow test, giving a vision of 20/15 in each eye. A +3.00 sph. was added in a pair of grab fronts for her presbyopic condition. Complete relief from her symptoms has been enjoyed since wearing these corrections during the past two years.

Case 3. J. F. S., age 60, since a young man has had poor distant vision, pain in eyes and blurring on reading, from which he has never been relieved, although he has often been fitted by several refractionists. Vision was 9/200 in O. D., and 8/200 in O. S. Was wearing -6.00 sph. for distance and -4.00 for reading. Subjective tests gave -6.00 sph. -1.50 cyl.

ax. 115 for the right eye, while -7.00 sph. -1.50 cyl. ax. 60 was selected for the left, giving 20/60 in O. U. A deduction of 3.00 diopters was given for his reading. After a trial of these lenses, which was not satisfactory, homatropin was instilled, when objective tests showed that the proper correction for the right eye was -6.00 sph. -2.50 cyl. ax. 120, and -7.00 sph. -2.00 cyl. ax. 60 for the left, which gave a vision of 20/40. Together with an appropriate correction for near work, these corrections have produced cessation of all his refractive symptoms since wearing them.

If space permitted, these typical cases might be augmented by the citation of a large number of similar instances which have come under my observation and care. The difficulties of making subjective estimations, as previously indicated, are all illustrated by the above cases, and as the presbyopes whom I usually meet are from a distance and have generally consulted refractionists of more or less ability, if the usual methods of testing show any uncertainty in result I do not hesitate to place them under the influence of homatropin, when a certainty of refraction is apparent. In following this procedure I am actuated by a desire to please my patients in the removal of their distressing symptoms, and thereby further my reputation.

In regard to the risk incurred by the employment of homatropin in presbyopic eyes, it is scarcely necessary to add that, in my opinion, this matter has been greatly exaggerated by many writers, although as a routine I employ a myotic to neutralize the effect of the mydriatic. Among the thousands of presbyopes who, in clinical and private practice, have had *atropin* instilled into their eyes for weeks and even

months at a time in the treatment of corneal and iritic disorders, how many have terminated in a glaucomatous condition? We employ mydriatics in these conditions with scarcely a thought of danger, but when suggested as an aid in the refraction of presbyopic ametropes, what a potency for harm it suddenly assumes in the minds of some! A reference to the literature of glaucoma reveals the citation of many instances as having resulted from the use of mydriatics, while a further search will show that cases have followed the instillation of eserine. Such contradictory evidence, to my mind, points to the purely incidental development of the glaucomatous state. Our present knowledge of the etiology, pathology, and in many respects even the treatment is quite uncertain as will be found upon investigation of the writings at hand, and until our information upon these cardinal points becomes more definite and certain, can these harmful properties be justly attributed to the employment of mydriatics. I have yet to meet an instance in which the supposed increase of tension, or any other deleterious condition has resulted from my use of the drug, either as a mydriatic or cycloplegiac. If the agent is employed as I have previously indicated, followed by a myotic, I am confident that our results in the refraction of presbyopic ametropes would prove more satisfactory, and the risk incurred practically nil.

In the Hemisphere of X-Ray Activity—J. Rudis-Jicinsky, M. D., Cedar Rapids, Iowa: The best skiagraphs, and the best results in the treatment with the unknown ray of Professor Röntgen are obtained in the hemisphere of X-ray activity, or the field of the best rays of penetrating properties. These hemispheres or fields of activity or non-activity of the X-rays in a Crookes's tube may be seen and made

out better fluoroscopically and determined photographically, if we wish to. Within the limits of this hemisphere of activity, an object opaque to the X-rays will cast a shadow, easily detected with the help of the fluoroscope or by the image it produces upon the photographic plate, but to know and to find out exactly the best point of the best rays of X-ray order, is the main part in the new art of proper diagnosis and treatment in medicine and surgery. When the point is known to us it is comparatively easy to secure proper illumination and position of our subject in skiagraphy, and in therapy the most astonishing results. It is a matter of fact, and any one of us may satisfy himself by experiment, that the X-rays are projected in all directions from that side of the reflector opposite to the cathode. When the tube—a focus tube—is very low, the electrical force behind very small, we may observe a peculiar cathode stream, in the form of a pencil of violet color, strike the middle of our reflector in the tube, forming a little later two sharp lines of violet color on both sides of the anode exactly where, on increasing the force behind, the line of demarcation between the two hemispheres will appear and give us the peculiar green field of the X-rays, the point where the cathode rays strike first, first get hot during our work, and that seems to be the best proof where to look for the most beautiful X-rays altogether. From this point, an imaginary line drawn perpendicularly at right angles through the tube will show us where the maximum therapeutic field in X-ray treatment of any lesion may be found, or where the subject skiagraphed has to be, to give us the proper and best picture without distortion on short exposure. This point must and most assuredly will depend upon the form of the tube, the form of the cathode and the anode, with or without a separate reflector, and upon all the individualities of the tube itself. It is therefore necessary to find out the source and the proper point of the X-ray in each individual tube, before we can repeat the best photographic features of others or expect any results in therapy.—(*The New York Medical Journal*, May 23, 1903.)

See program of the Annual Meeting of the Michigan State Medical Society; on pages i to vi of this issue.

The Journal of the Michigan State Medical Society

All exchanges, books for review, manuscript, etc., should be addressed to the EDITOR, 57 W. Fort St., Detroit, Mich.
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Editorial

A YEAR'S EXPERIENCE.

55 County Societies,)
embracing 71 Counties.) Membership, 1700.

Nearly a year has passed since the State Society, through its council and officers, began the organization of the Society, taking the County Society as the unit. It has been a year of arduous work; but it has been a year fruitful of excellent and permanent results.

The Journal as a means of recording the transactions of the State and County Societies, of reaching the profession of the State, of stimulating and keeping active the interest in the work of the County Societies, has, we believe, proven itself of worth. The cost of publication and of distribution has been greater than anticipated, and has not and cannot be met entirely by the revenues derived from the advertisements, though the patronage has been liberal.

The relationship of the State and County Societies makes the membership of the State Society dependent entirely upon the County Societies, so that the work of the future lies in keeping active the interest in the county organizations. (We would emphatically emphasize this fact to the officers of the County Societies.) We do not underestimate the amount of energy and perseverance this work means; but we believe that with the Council organized as it is the work is well in hand; for an earnest effort will be made not only to retain the present membership, but to put upon the rolls every physician entitled to the same.

In the organization of the County Societies much enthusiasm has been mani-

fested, and but one serious obstacle has been met, namely, the question of the admission to membership of others than the regular physician. Not a few counties have strenuously objected to their admission, though the State Society has been more conservative than the American Medical Association suggested in its plans for organization. Yet other counties, very notably one, though organized, have as yet made no application for a charter, because the State Society refuses to admit to membership homeopaths who are acceptable to the regular physicians, but who will not comply with the requirements. The Council, however, feels that the terms under which the State Society admits reputable and legally registered physicians to membership are already very liberal, as elastic as the conditions of the times and the spirit of adherence to the Code of Ethics will permit.

The future will undoubtedly see changes for the better in the details of the work of administration; but of these facts we are sure: The County Society and the Journal of the State Society as a medium of record have come to stay. The success of the future rests with the County.

County Society News.

IONIA COUNTY.

The second meeting of the Ionia County Medical Society was held at the Hotel Belding, Belding, Thursday, May 14th.

PROGRAMME.

- 10 a. m.
- Roll Call and Enrollment.
- Reading of Minutes.
- Business Meeting.
- Paper—Osteo-Myelitis.....Dr. A. B. Penton
- Discussion led by Dr. C. G. Johnson.
- A Case in Practice and How It Was Handled
-Dr. C. S. Cope
- 1 p. m.
- Visit to Silk Mills.

- Report of a case, "*Tænia Mediocanellata*"..
Dr. W. H. Flint
 Discussion led by Dr. F. M. Marsh.
 Paper—Management of Abortions.....
 ..Dr. Richard R. Smith, Lecturer 5th District
 Discussion General.
 Paper—Dry Labor.....Dr. J. F. Pinkham
 Discussion led by Dr. W. A. Wilkinson.
 Paper—The Conservative Element in the
 Treatment of Appendicitis from a Sur-
 gical Standpoint.....Dr. Scuyler C. Graves

JACKSON COUNTY.

LIGHT AND ITS THERAPEUTICAL EFFECTS.*

J. T. MAIN,
 Jackson.

The constitution and physics of light have attracted the attention of many of the best minds for centuries—Sir Isaac Newton formulated the emission theory of light and exercised much ingenuity to make that theory account for the different phenomena manifested by it, without entire success. This theory gradually gave way to the undulatory theory now universally accepted.

But it is not so much the physics of light as it is the therapeutic action that I would speak of. Medical men are all asking for information as to the curative action of light, and though I acknowledge my incompetency to answer these questions, or in this short and imperfect paper to throw much light upon the subject, yet you may pardon a man who for nearly fifty years has closely watched the trend of medical thought and progress for saying a few words on the subject, rather to forecast the future, than to attempt conveying information in the present. We are all more or less familiar with the action of solar light upon vegetable and animal organisms. We know that the plant grown in the shade, as the grass covered up with a board, is white and sickly. It cannot elaborate chlorophyl, and consequently is without the green color of the plant exposed to the light. In like manner fishes and animals bred in the dark are without pigment and deficient in red blood corpuscles. They are virtually albinos. We have all of us, I presume, recommended sun baths to our patients, and believed they derived benefit from the same. We

know that bacteria or disease germs exposed to the direct solar rays are soon destroyed. Those of us who have experimented in this direction know that the red rays of the spectrum have little effect upon them, while the actinic or violet rays act very promptly in destroying their vitality. By the use of polarized light and interference plates, I have obtained a very pure violet light, and have found that infusoria submitted to it on a life slide, were killed at once, while if submitted to white light they would live for hours and multiply even. Within the past few years the light bath has become a common form of treatment in nearly every sanitarium. The patient is placed in a cabinet and surrounded by incandescent lights, the electric light being essentially the same as sunlight. All who have used this light cabinet are loud in its praise.

For many years, in fact as far back as the 17th century, certain physicians advocated the use of red light in smallpox and other eruptive diseases, claiming that it shortened the disease, and in cases of smallpox prevented pitting. This, by other physicians, without trial, seems to have been treated as a fad, and only recently has it been proved to be correct, providing all other than red light be prevented from finding access to the patient. But more of this hereafter. A few years ago Gen. Pleasanton started the blue glass fad, as it was called, his idea being that blue light was curative in nearly all diseases, and promoted increased health and strength in those who were well. For a time it became a fad, but although there was an element of truth in the pretension, it soon went into disuse.

I have always felt an interest in the physics of light, and some seven years ago I got the idea (how I have now forgotten), that solar light might prove useful in the treatment of lupus and kindred diseases. I had two patients upon whom I tried it, using a large condenser, such as is used in the stereopticon to condense the light. I continued the experiment for some time. One was a very bad case. This I thought was benefited somewhat. I left the lens with the patient with directions for its use. It proved a failure. The other and milder case was much benefited, but treatment was for some reason discontinued. Now had I strained out the heat and red rays, or even interposed a stratum of solution of alum between the lens and my patient I am convinced that success would have followed, but although I found the heat interfering with proper concentration of light I did not then know the necessity of eliminating the red of the spectrum.

*Read before the Jackson County Medical Society.

Of late the X-ray is being largely used. This is not light, or, if it contains some elements of the actinic rays, it consists largely of something else. It would seem that this was an emission of molecules or atoms from the cathode or elsewhere bombarding the tissues upon which it is directed. Not only the surface, but great penetrating power is possessed by the ray. It is said to be a powerful germicide, and, as we know its powers of penetration, we might reason that it was well adapted to the treatment of interior organs invaded by germ disease, such, for instance, as cases of tuberculosis; but unfortunately, it seems that the energy if sufficiently concentrated to destroy bacteria, becomes destructive to the tissues. I know very little practically of the working of the X-ray, but have no doubt that as it becomes better understood, it will prove in many ways an exceedingly useful agent, but then I think we shall be able to form some equation to obtain $X =$ some known quantity or quality. But we are more concerned with solar light, of which Tyndall says: "We have in the first place in solar light an agent of exceeding complexity, composed of innumerable constituents refrangible in different degrees. We find, secondly, the atoms and molecules of bodies gifted with the power of sifting solar light in such a manner as to show a molecular structure commensurate in complexity with light itself. Light is a form of energy, and like other forms of energy is vibratory. It consists of undulations in the luminiferous ether that penetrates and surrounds the molecules and atoms of all matter. If we divide a ray of solar light into its component parts we find the distance from crest to crest of the waves of the red light to be 1-36913 of an inch. This is the largest wave the retina can take cognizance of to interpret as light. Accompanying the red ray and in the invisible part of the spectrum adjacent are nearly all the heat waves. Extending from the red to the violet beyond are many rays of shorter and shorter wave length, till in the violet we have a length of 1-64631 of an inch, about half the length found in the red ray, and the shortest vibration the retina can receive and interpret as light. But beyond the violet ray are many rays of shorter vibration having powerful chemical action, but invisible, the ultra violet. Now let us consider one other point. The vibrations of light may be changed to those of electricity and to those of heat. In other words all three are different forms of the same energy To illustrate roughly—if we have a steel rod ten feet long, at-

tached at its lower end, and then set into vibrations by a tooth wheel or other device, so we can control and increase the vibrations at will, first we shall get the long vibrations, the waves progressing longitudinally, vibration giving rise to sound. At first a low pitch. As the vibrations increase in rapidity the pitch will be higher and higher until the wave lengths are so short and rapid that the ear can no longer take cognizance of them as sound. Now as the vibrations become still more rapid they take a horizontal form and become heat vibrations. The rod becomes hot; still increase the vibrations and the heat increases till the rod becomes red hot. In other words, certain of the shorter vibrations are transformed into those of red light. Still continue to increase and the rod becomes white hot. All the colors of the spectrum are produced and blended into white light. If the fusion of the rod did not occur at about this point the light undulations would be transformed largely to electrical vibrations. Indeed, some of them have already been so changed. So we see the different forms of vibratory energy changing from one to another according to the length and rapidity of vibrations. Yet the sound waves are longitudinal, those of heat, light, and electricity horizontal."

Now let us more fully examine a single ray of solar light passed through a prism of bisulphide of carbon, which gives us a spectrum showing its constituent rays. First, we find the long non-luminous waves, heat waves. These gradually grow less up to and through the red rays of light, which consist of undulations 1-36918 of an inch in length, having but little chemical energy. Then on through the different color rays, orange, yellow, blue, green, violet, the undulations of which steadily decrease in length and the chemical action of which as steadily increase to the violet ray, having a wave length of about half that of the red and having a powerful chemical activity. Still on through many non-luminous rays, increasing in chemical activity, till the maximum is reached, then gradually declining till the end of the non-luminous spectrum is reached. As all these constituent rays of white light travel at the same speed per second, of course, the impact of the waves will vary in frequency with the vibrations or wave length.

The red rays, as has been said, have little if any chemical energy. The photographer admits them to his dark room, as they do not affect his plates. The chemical energy of the other or actinic rays increase to the violet or beyond. In-

deed much stronger in the ultra than elsewhere.

Now, knowing the powerful chemical effects of the blue and violet, as well as the ultra violet rays—their effects upon the molecules of substances; knowing their fatal effect upon bacteria, suppose we concentrate these rays upon a diseased surface. The length of the violet waves or undulations is 1-64631 of an inch the rate is 190,000 miles per second. It follows that we get an impact upon the surface exposed of 789 millions of millions per second. I ask in all candor if under these circumstances we might not rationally expect results of some kind? I think all reasonable men will answer yes, and experience is every day giving the same answer. True we have very much to learn. The number of wave impacts per second varies much with the different rays used, and so must their effect. As yet little observation has been had except of the red rays and the combination of all the other rays. May we not find distinctive effects from other rays taken separately or in combination? I have said that the idea of submitting smallpox patients to red light was held by some practitioners many years ago. About 1893, or earlier, Dr. Finsen, of Copenhagen, in experimenting with light observed certain effects of actinic light upon earth worms and the chameleon, that were not produced by red light. The actinic light produced an irritating effect and an increase of pigment in the part exposed in the chameleon or a change in its location. Long before this Sir John Lubock in his study of ants, placed many of them in a long box covered with strips of red, yellow, green and blue glass. They all seemed to suffer under the blue light and clustered under the red. Upon reversing the cover, they immediately changed to the other end of the box, keeping under the red glass. This, with what had been said of the action of red light and the absence of light in smallpox led Dr. Finsen by a simple course of reasoning to see the deleterious effects of the action of the actinic rays upon a surface affected with an eruptive disease. Experiments in smallpox hospitals have shown the accuracy of his reasoning. It would seem, however, that instead of the red light being curative, the actinic light is deleterious, as under the influence of red light alone or total darkness, the disease is equally shortened and pitting prevented. As it is impracticable to attend the patients in perfect darkness the red light is used as a convenience. This treatment of smallpox has been tested and approved in every large city in Europe.

At about this time Dr. Finsen, in his experiment, found that the bactericidal action of solar light was due to the blue, violet and ultra-violet rays, the other rays of the spectrum having little or no effect. He also found that the more concentrated the actinic light was the more rapidly fatal it was to bacteria. Now in germ diseases if the germs be destroyed the disease will be removed, but unfortunately the actinic rays cannot be made to penetrate the tissues of the body to any great extent, hence, in tuberculosis and other diseases where the bacilli are deep seated, these rays cannot be used satisfactorily. But in those diseases such as lupus or early manifestations of epithelioma when the disease germs can be reached by the light they can surely be destroyed. Lupus is the disease above all others that Dr. Finsen has been giving attention to, with the result that a cure is almost certain. In mild cases the cure being effected rapidly, and in old and severe cases months and even a year may be required. Finsen found the electric light contained more of the chemical rays than solar light. He consequently used very powerful arc lights in his work. He now uses an arc light of 80 amperes, concentrating the light by a rock crystal lens (as glass stopped many of the ultra-violet rays), and filters through simple water.

The powerful light from the arc passes into a cone or cylinder, then is condensed by a rock crystal lens, then through a cell filled with water, then the light is focused upon the diseased surface. In order to get as much penetrating power as possible, the blood is first gently pressed from the surface, as the red corpuscles act somewhat like red light in preventing penetration.

Each patient is submitted to the light about 1½ hours per day. While lupus and epithelioma are the more common diseases treated, there are many others. In fact, all superficial germ diseases are curable by the Finsen method.

The X-ray in connection with the Finsen method bids fair to reach the deep-seated cancerous diseases, when it has been more fully developed and understood. The Finsen light treatment is long past the experimental stage, and is firmly established. It is in use beside Copenhagen, in London, Paris, Berlin, Vienna and New York. I think it is also in Chicago and Boston. But one opinion is expressed with regard to it. It is a curative agent that cures. Can we not reasonably expect much more from light as a curative agent? It seems to me that we are but just beginning to find its therapeutic action.

Since writing the above I have read a pamphlet

issued by a firm advertising an improved apparatus for the Finsen treatment. They claim to have invented a glass for the lenses that transmits the violet and ultra-violet rays equally as well as rock crystal. This claim, till further proof, I take *cum grano salis*, as rock crystal is a double refracting substance, while glass is not, unless submitted to powerful strain, which would render it too fragile and uncertain for large lenses. This pamphlet also contained several articles by physicians who have used and investigated this method of treatment. In the main their ideas are much like those I have expressed, but they seem to fail in appreciating the fact that in a ray of light all the component parts giving rise to the seen and unseen parts of the spectrum are precisely the same, except in wave length and rapidity of impact. That the varying effect of the different rays is due to the varying number of impacts per second. With the long wave length of the infra red, and comparatively slow impact, we get the sensation of heat. The somewhat shorter vibrations and more rapid impact gives the sensation of red light. With still more rapid impact and shorter wave lengths as we advance in the spectrum we get the sensations of orange, yellow, green, blue and violet light, and as the vibrations become still shorter and more rapid they cannot be recognized by the retina, but give rise to chemical action, and at last to electrical action. All the different rays in the abstract are the same, vibrations in the luminiferous ether, some longer, some shorter, producing a more or less rapid impact.

Some of these gentlemen have also more faith in the penetrating powers of the actinic rays than I believe the facts will warrant. I hope they will prove to be right, for if so, internal as well as external diseases may be effectively treated by this method.

KENT COUNTY.

OUR CIVIC FUNCTION.*

CHARLES CURTIS WALLIN.

In directing your attention this evening from the special consideration of individual disease to the general consideration of public ailments, it is the object of the writer to discuss:

First—The relations that we, as individuals, and as a society, should bear to the municipal administration.

*Read before the Kent County Medical Society.

Second—A few conditions which should be corrected.

Third—Some ways to effect desirable changes.

The problem of municipal administration is, doubtless, the most vital before the American nation to-day. Upon its successful solution depends the integrity of our entire system. To its successful solution, we, as citizens and physicians, are doubly obligated. Now that we are organized, it is not only our privilege, but our duty to transform the potential strength of this body into kinetic energy that we may not only fulfill our obligation to the community, but may also cause this society to be recognized as a power in the city, and attract to it that approbation and cordial respect which are its proper attributes.

By virtue of being a branch of the State Society, avenues are open to us that were never before, and if we fail to accept the responsibilities arising from our present opportunity, we shall be justly condemned as poor stewards of the talents entrusted to our care.

A strict classification of the numerous conditions which demand attention is impossible. For sake of convenience, however, they will be divided as follows:

First—Hygiene and Sanitation, and

Second—Medico-legal.

The most prominent subject under the first division is that of Prophylaxis and treatment of infectious diseases. Smallpox, scarlet fever, diphtheria are already under the legal and actual control of our Board of Health. To the more insidious but no less dangerous forms of communicable disease, our attention may be momentarily directed.

First and foremost among these stands tuberculosis. To quote statistics regarding its mortality rate, or authorities regarding its communicability, would be a waste of time. Suffice it to say that the two largest hospitals in the city refuse absolutely to admit patients with pulmonary tuberculosis, and that they are accepted only under certain conditions at the other institutions, concerning which information was obtained. Intelligent professional supervision of sufferers from this disease is admittedly imperative for their own good as well as for the safety of the community. That among certain classes this is obtainable only by institutional treatment is undeniable. The educational work being carried on among the laity by our State Board of Health is an effort in the right direction, which this society should sustain in every possible way.

Another subtle evil is that of gas leakage. In the *New York Medical Journal* of Aug. 23, 1902,

James C. Bayles, M. E., gives a most instructive and interesting discussion of this subject. He makes a conservative estimate of the amount of leakage per annum from mains as 225,000 cubic feet per mile for an average diameter of six inches. He notes the difference between coal gas and water gas with regard to the amount of carbon monoxide contained in each. In the former, it averages 7%, and in the latter 30%. Referring to its baneful influence on the human body, he quotes Prof. Jackson, of Harvard, who "found that vertigo and dizziness were caused by the presence in the room of one-tenth of one per cent. of water gas; that very much smaller percentages induced more or less energetic blood poisoning, and that a very little more was quickly fatal to most forms of animal life experimented on. Habitual exposure to an atmosphere so vitiated lowers the vitality to such an extent that health is impossible, and sickness inevitable." He says further:

"I am of the opinion that it (*i. e.*, escaped water gas) is incomparably the most dangerous element of that mysterious and indefinable compound termed sewer gas."

Following this article, in the same number, is an interesting clinical report of a number of cases by Dr. Samuel Lloyd. In the *Medical Record* of Dec. 20, 1902, under the proceedings of the Thirtieth Annual Meeting of the American Public Health Association is a report of the Committee on Dangers to the Public Health from Illuminating and Fuel Gas. Investigating fixtures, it was found that in 89% of the houses examined, a moderate increase of pressure produced leakage. For other facts and statistics, the report may be consulted. The gas used in this city is a mixture of coal and water gas, combined in varying proportions according to conditions, but averaging — of coal gas to — of water gas. This pernicious gas is found not only in blocks and tenements of the city, but in our public buildings as well. For instance, complaints have been made to the writer concerning the atmosphere in the reading room of our public library, which, in the words of the complainant, is "sour with gas." Similar conditions have been discovered in certain of the public school buildings, and every one who has been about the city will testify to the odorous condition of most of the public closets.

It may not be out of place here to enter a protest against many of the so-called disinfecting arrangements with which these places are equipped. They load the atmosphere with fumes scarcely less disagreeable than those they cover

up, and it is claimed that they thus exercise a disinfectant action, which any one versed in bacteriology knows is absurd.

As a corollary to the subject of gas leakage, that of ventilation arises. The evils of imperfect plumbing may be, to a degree, overcome by perfect ventilation, yet the impurity of the air in most of our places of public gatherings, and in many of the rented blocks in the city, is notorious.

In addition to these problems, there are many others which can be only mentioned in the space of such an article as this. Thus, there is the question of the prevention of venereal diseases with the attendant problem of segregation, examination and control of prostitutes; of food and milk inspection, garbage removal, the smoke nuisance, and the evil of sensational "blood and thunder" posters and novels. It may seem that to bring this last heading into the category of sanitary evils is going somewhat afield, yet one who gives the subject consideration will, I believe, agree with the writer that the glaring depiction of crime and dissipation constantly before the children of the city is a positive factor in the causation of those perverted mental conditions which give rise to many of the crimes of violence committed among us. Indeed, when one considers that the children of the poor, those least fitted by heredity, environment, and the discipline of education to withstand the excitement and imaginative delirium roused by these portrayals are, at the same time, those most exposed to their baneful influence, it is not surprising that their developing intellect is set awry, that their sense of the fitness of things, which in the last analysis is the criterion of complete mental health, should be distorted, and that in later years, certain fundamentally weak minds, upon which this virus has fallen should give expression, through their crimes, to the ideas which have been contributing to their deterioration.

Under the second caption—that of medico-legal matters—will be mentioned but three subjects.

First, the existing system of expert testimony. With the present practice of each party retaining one or more physicians as experts, and of an examination so conducted by the parties' attorneys as to cause the evidence of one to contradict that of the other, the result is not only often detrimental to the cause of justice, but the spectacle presented places the profession before the public in a very uncomplimentary aspect. Again, in the matter of experts at a coroner's autopsy, it is not unusual to see an expert called who lacks the attainments which the title implies. In both in-

stances, the people pay for what they do not get, while the profession and the cause of science suffer.

The second and third topics do not come strictly under the head of medico-legal, but are here placed because we believe that they are matters demanding legislative action. Of these, the first is the question of the age of consent. That this subject is somewhat hackneyed does not lessen its importance. The law of this state fixes said age at 14. That a child of this age is sufficiently informed on sexual matters to realize anything more than the physical portion of the acts of congress, or is sufficiently developed mentally to resist the influence of excitement and surroundings is obviously preposterous. Raising the limit would have at least a tendency to lessen illicit intercourse, by reason of the heavier penalty imposed on the male, and would contribute somewhat toward diminishing the number of illegitimate children and abandoned women—both elements of moral and physical danger to the community.

The subject of "regulation of practice" is brought up only that its importance may be emphasized, and the plea for high standards renewed. Valuable work has been done in the right direction, but in the estimation of many there is still much to be accomplished before the requirements for admission to practice in this state are sufficiently high.

In casting about for avenues of improvement in matters of hygiene and sanitation, we think first of our health department. Consulting our city charter, we find that this department and its governing board are established upon the same footing, and in the same manner, as the police and fire departments, and the department of public works. Turning to the ordinances of the city we find that it is vested with autocratic power; not only may it make decisions and issue decrees which would instantly put a stop to all social activity, not only has it authority to close streets, destroy buildings, or do anything else that its judgment may deem necessary, but it can call upon any or all other departments to enforce its edicts. In addition to its executive functions, it is further to recommend from time to time, such legislation as may be necessary. In view of all this, we might expect this department to be the most effective in the city; yet, it is almost the reverse. Certainly it does not possess the organization of the two departments before mentioned, and, in the estimation of the laity, is accorded a position far inferior to that to which it should be entitled. Why is this? Not because of the

personnel of the department, nor because of any lack of zeal in the performance of duties, but because any organization, to be effective, must not be subjected to frequent changes of head. What would our police and fire departments be if every two or four years new chiefs were installed? The first requisite is that this position of Superintendent of Public Health be removed as far as possible from the influence of politics and that the occupant should be given some assurance of prolonged incumbency. Let the board be appointed as now, if necessary, but give the health officer time and opportunity to develop his department. No other cog in the municipal engine impinges on so many parts, nor has any department more need of a carefully planned and executed system. Then let a man be found especially adapted to the place—by training, if possible—by natural ability and taste, at least. When a superintendent of education is to be secured, months are spent in consideration of various candidates. Yet the superintendent of public health, while often capable and as efficient as the circumstances in which he is placed permit, requires for his chief qualification the political friendship of the appointing body. The possibilities for a health department having at its head a permanent and qualified superintendent are numerous.

First is the great advantage of organization by which the minor departments, to-wit: those of milk, plumbing and food inspection at present related to but independent of the health board—might be supervised and made more effective.

Relations to departments of first degree (the Public Works Education) might be strengthened by means of men specially detailed to each department.

Facilities for thorough post mortem work are painfully lacking in this city, and many instructive cases are lost. With a well equipped autopsy room in charge of a competent pathologist, cases occurring in the coroner's work, as well as others, could be thoroughly studied, and by preservation of the interesting specimens often discovered, the foundation of a medical museum could soon be laid. A thoroughly equipped laboratory for clinical and pathological work would be of value in determining many questions of diagnosis and prophylaxis which are continually arising.

Regarding medico-legal matters and the system of expert testimony, the profession is, I believe, agreed that a commission of physicians designated and paid by the court to decide upon professional questions arising in the course of litigation, would be far superior to the present practice.

The two main obstacles to the realization of these desiderata are lack of interest and knowledge among the laity as well as, to a certain extent, in the profession, and the influence of practical politics. The first step toward overcoming these should be the formation of a committee such as is provided for in the constitution of this society. Let this committee take under consideration any question touching the public health and report as fully as may be on the same, recommending such measures as it may deem wise. When said report shall have received the endorsement of the society, let it be published in the lay press for the edification of the people. In this way a propaganda of education and agitation may be carried on which shall constitute the entering wedge of improvement. At such times as may be deemed necessary, let the society put before the council and the people such measures as are required. By such a course, it will be found that, while the voice of the people is not always the voice of God, yet the public judgment, when sufficiently enlightened is usually correct; and upon public judgment we must in the final analysis, depend.

There are, however, problems which cannot be properly discussed before the laity. To reach these, recourse must be taken to the more covert paths of legislation, through which many bills are passed with little publicity, but which are open to those who seek.

The ideals herein indicated are not Utopian. Years of persistent effort will be necessary to their accomplishment. Persistent effort and continued interest by the profession as individuals and as a whole, manifested along the lines indicated, cannot fail to be a potent influence, and though stumbling often, struggling perchance in the slough of despond, battling against the forces of ignorance and short-sighted self-interest, we must not turn aside or lose sight of the high calling wherewith we are called, but rather, "With malice toward none; with charity for all; with firmness in the right, as God gives us to see the right, let us strive on to finish the work we are in."

LAPEER COUNTY.

At a meeting held at Imlay City, April 8, the Lapeer County Medical Society endorsed the Nottingham bill and sent the resolutions to the State Senator and Representative.

Following are abstracts of papers read.

H. E. RANDALL, Secretary.

ABSTRACT OF PAPER ON "CIRRHOSIS OF THE LIVER."

WM. BLAKE,
Lapeer.

Cirrhosis of the liver is a condition in which the connective tissue increases either within the lobules or in the perilobular spaces which follow either infection or the long continued irritation produced by toxic substances that reach the liver through the portal blood. Cirrhosis may be divided into hypertrophic and atrophic. When the round cell infiltration is chiefly within the lobules it is characteristic of hypertrophic cirrhosis and we would expect to find the liver increased in bulk and ascites absent. On the other hand, when the connective tissue grows in the interlobular spaces around the radicles of the portal veins and to some extent cuts off the supply of portal blood to the liver we expect a decrease in size of liver and ascites present. Clinically there are many varieties.

That alcohol has an affinity for the liver has been demonstrated by experiments on the lower animals. Some observers claim the injurious effects of alcohol are due to chronic gastro-intestinal catarrh produced, which by defective digestion gives rise to poisons which act injuriously on the liver, or by generation of poison by micro-organisms. Malaria, lead, and phosphorous, syphilis and typhoid cause enlargement of liver. Syphilis may induce a connective tissue change or gumma of liver. These intoxications, infections, and intestinal auto-intoxication constitute the etiological factors in this disease. A point brought out in the paper and in the discussion was that cases observed for years changed from hypertrophic to the atrophic form. Symptoms: Hepatic cirrhosis may follow a latent course, and the onset is usually obscure. There are, however, some precursory signs of hepatic disturbance, viz.: Loss of appetite, a sense of weight in epigastrium, and an irregular action of the bowels, and if there be peri-hepatitis there is severe pain. The liver may be found on examination to be somewhat increased in size, a decline in nutrition, the skin is dry and rough, sallow face, or the opposite, hypermea of face.

As the disease progresses, the area of dullness is reduced, the portal circulation is impeded, followed by ascites, stasis in the spleen and intestines and hemorrhoidal veins. It is to be borne in mind that the portal vein is formed of the inferior and superior mesenteric veins, the gastric and splenic veins. The stasis of portal circula-

tion causes the hemorrhage from stomach and bowels. If collateral circulation be established, life may be much prolonged.

Course and Duration: Usually lasts 12 to 15 months, but may, with periods of improvement, last 10 to 15 years.

Prognosis and Treatment: There is more hope of recovery in the early stages of disease when the hepatic area is increased and before atrophy is advanced. 1. Interstitial hepatitis, like all other chronic inflammatory processes, may undergo resolution and recovery. 2. The earlier the stage of the disease the better the prognosis. 3. Even should the liver be found in a condition of atrophy a prognosis of death should not be given, but treatment should be commenced and perseveringly adhered to.

Summary of Treatment: 1. Remove the morbid cause, as abuse of alcohol, residence in a malarial district or cure existing syphilis. Give the liver as much rest as possible, and the first indication is to reduce as far as possible the activity of the digestive organs. A milk diet is advised. Iodine in the form of iodide of potassium or sodium should be prescribed. Salines for intestinal and abdominal depletion. Paracentesis should be performed before the ascites is very marked.

ABSTRACT OF PAPER ON "EXOPHTHALMIC GOITRE."

PETER STEWART,
Hadley.

Dr. Stewart's paper deals chiefly with the diagnosis and treatment, with the report of six cases seen during the last two years.

Symptoms: The pulse varies from 90 to 160; restlessness, insomnia, enlargement of thyroid gland, protrusion of eye balls and tremor involving only the hands. There may be as accompanying symptoms: Diarrhoea, vomiting, increase of temperature and salivation.

Treatment: Pregnancy may exercise a favorable influence on the disease. In Tinct. of Strophanthus we have a valuable help in controlling the tachy cardia. Commencing with a 3 or 4 drop dose every 4 hours, gradually increasing to 6 or 7 drop doses in about 6 to 8 weeks. When we obtain an improvement in tachy cardia it is best to gradually reduce the dose. For the nervous symptoms, he has found the bromides very effectual. For the stomach symptoms Elix. Lact. Pepsin and Lloyd's hydrastis render good service. Rest and quiet are of paramount importance in

the treatment. In every case of increased rapidity of pulse bear in mind that in a month or two it may develop into a case of exophthalmic goitre.

Other drugs that may come into service are digitalis, cactus, elix. of five bromides P. D. & Co., codein, and papine.

ABSTRACT OF PAPER, "WHY IS APPENDICITIS MORE PREVALENT NOW THAN FORMERLY, SAY 25 YEARS AGO?"

J. S. CAULKINS,
Thornville.

(Dr. Caulkins is some 80 years of age, and has been in practice over 50 years. What he has to say on the etiology of appendicitis has much weight.)

The *post hoc, ergo propter hoc* argument is a very good one to start a theory, needing, however, to entitle it to much notice some facts with which to bolster it up, but when there are a dozen *ante hocs* to lay equal claim to the *propter* its value becomes of very little value. This is the exact position of the argument applied to the theory that appendicitis is a sequel to grip. The writer remembers the Tyler epidemics of influenza that swept over this country in 1842. It was quite as prevalent as the grip we had 12 years ago, but there is no record that it was followed by any disease of the appendix. The differences between our conditions and habits and those of a generation ago are great, and somewhere among these newly acquired habits and conditions the cause of the increase in disease of the appendix is concealed. Traveling, then by foot or horse, now by railroad. Houses are more tightly constructed, consequently less fresh air. Fuel and lights: Now soft and hard coal instead of wood, kerosene oil instead of whale oil, lamps or tallow candles. Fashionable shoes instead of old-fashioned boots. It must be remembered that when great and revolutionary changes take place in the habits of animals or even of vegetables, the results do not immediately follow.

Whiskey was used then in moderation by the whole community; now to excess by a class. The same is true of tobacco. Tea and coffee 60 years ago was unknown by the common people, the common beverage being roasted barley. The most important change has been in diet. Fifty years ago it was the Indian corn, the hasty pudding, the Johnny cake, hulled corn and beans.

For luxury there were the cider apple sauce and the stock of dried pumpkins to make into pies. The vinegar was pure, now it is a dilution of sulphuric acid. The roller process flour is too starchy and the foolish consumption of patent medicines tends to set up an injurious effect upon the intestinal tract.

Baking powders of cream of tartar are not so hurtful, although the sanitarian cannot recommend their use. It is the cheap 20 cent baking powders that do the mischief. Our diet today is mixed with poisonous chemicals. If these are hurtful what part of the intestinal canal is liable to be injured? The weakest. And the weakest is that withered-up, disappearing structure—the appendix vermiformis—the lowest in vitality of any part of the human body.

ABSTRACT OF PAPER ON "PUERPERAL CONVULSIONS."

A. PRICE,
Almont.

The country physician meeting a case of puerperal convulsions has no time to wait for counsel. He must act on his own unaided judgment at once, often with unskilled nurses and inconvenient surroundings. Dr. Price says the treatment is very unsatisfactory, not that the mortality to mothers has been excessive, for he has lost only three cases in 24 years' practice, but the loss of so many infants was appalling. The theories advanced as to cause are each insufficient to explain all the phenomena. He saw one case where there were convulsions during and after labor in which there were no swelling of feet or any of the ordinary symptoms. We base our treatment on the theory of toxæmia.

There are three classes of cases: 1. Those cases occurring before labor. 2. During labor. 3. After labor. In the first class of cases one's resources are tried most. Infusion of digitalis, with acetate of potash, given as indicated, have relieved the œdema, and in no case have convulsions occurred except in two cases which are mentioned in detail, but in each case the child has been lost. While the thought of voluntarily destroying the life of the fœtus is abhorrent to every conscientious man, yet there are few men who would not advise it in a case where the symptoms were marked, and especially when convulsions have occurred. He questions if it would not be better and safer to empty the uterus in every case where we find a considerable amount of albumin in the urine.

And another reason for operating early is the difficulty encountered after the patient is profoundly poisoned. When convulsions occur during labor the only course is to deliver with instruments as quickly as possible, control nervous symptoms with chloroform, morphine, chloral, etc. and dilution of the poison by acting upon skin, bowels and kidney.

In prolonged stupor do not forget to use the catheter to empty the bladder.

MACOMB COUNTY.

Extract of paper read by Dr. E. E. Evans, Armada, before the Macomb Medical Society.

EXOPHTHALMIC GOITRE.

Late investigations by Tedeschi as to the etiology seem to show that the initial lesion occurs in the restiform bodies.

The writer has seen two cases. The first proved fatal in a few weeks under usual plan of treatment. The other, a female, age 22, grew rapidly worse while taking digitalis and bromides, but began to improve at once, and went on to ultimate complete recovery under the administration of belladonna, pushed to physiological effect.

Surgical treatment is praised by those who have had experience. Kocher reports 93 cases, treated by putting an end to the excessive vascularization of the thyroid gland, by ligation of afferent arteries and partial excision. Cure was rapid and complete in 75 per cent. He counsels operation at once in every case, without wasting time on internal treatment.

SHIAWASSEE CO.

LA GRIPPE AND INFLUENZA.*

ETIOLOGY AND SYMPTOMATOLOGY.

P. S. WILLSON,
Owosso.

What is it? An infectious disease, characterized by great prostration, and often catarrh of the mucous membranes, especially the respiratory, and gastro-intestinal, with a great liability to serious complications, particularly the pneumonias and bronchial affections.

*Read before Shiawassee County Medical Society, April 30, 1902.

Its History. La grippe, or epidemic influenza, has appeared at times, for a great many years. It has been known for several centuries. During the past century there have been several extensive and serious outbreaks, notably those of 1833, 1847 and 1848, and the one more familiar to us, that of 1889-90. Many epidemics have started in Russia, and it has been given the name of Russian fever. In October of 1889 it became quite endemic in St. Petersburg. During the following months it became very epidemic in Germany, France and all western Europe, reaching London about Christmas time. About the same time cases of the disease sprung up in this country and became pandemic in America. This siege proved a very serious and fatal one. Many lives were sacrificed at its altar. It seems that the disease has the peculiarity of disappearing from the earth for many years, to again appear, and sometimes spreads all over the country in a very short time, then to disappear for a longer or shorter period. Since the outbreak of 1889, it seems to have prevailed more or less from year to year in this country, at times becoming quite epidemic and seemingly, at times, very malignant. It seems to prevail almost entirely during the colder and wet months of the year, being favored, possibly by certain atmospheric conditions or wind currents. Influenza occurs at times in endemic distribution, confining itself to isolated spots, such as barracks, prisons or a single community.

The predisposition to the disease seems to be quite general, and the period of incubation or development probably short. These circumstances probably explain the fact that epidemics of la grippe sometimes develop with what might be termed "explosive suddenness," attacking a great number of people almost simultaneously. The duration of epidemics, varies from a few weeks to several months. Recovery from one attack does not protect one from subsequent attacks. Some persons seem to be attacked as often as they are exposed to the infection. Just how the infection is spread and how it is given I am not prepared to state. Some claim it is given through immediate contact. Others claim through the air, and, too, only for a short distance, contradictory to the supposed theory, that of hundreds of miles, and thirdly, through the intervention of a third person, or through inanimate bodies, though it is claimed the bacillus is easily dried and rendered sterile thereby. It seems quite probable that the bacilli gain entrance into the body by way of the respiratory passages. There is, it is true, and no doubt you have noted

it, a great tendency on the part of nearly all laymen to call all "colds" and sporadic cases of influenza "the grip." They are fond of the term, for all their simple ailments. They like it, and are quite disappointed when they do not get it.

In the latter part of 1898, the influenza bacillus was first identified in the laboratory of the Chicago Health Department. Since then repeated examinations have been made, and the micro-organism has been found with increasing frequency, thus demonstrating the feasibility of the infection. Since then the search for the influenza bacillus has become a part of the regular work of the bacteriologist. The germ has been found in uncomplicated la grippe, and in complicating bronchitis, pneumonia, pharyngitis and many other acute infectious diseases.

Its Causation.—The conditions which favor its rapid development and spreading, as yet, in the minds of some, seem to be not clear, or somewhat unknown. Some claim it is due to meteorological conditions, while others make the claim it is due to a miasmatic material in the atmosphere, then again many believe it is due, and I think quite probably more correctly so, to a specific micro-organism of the most severe infectiveness. That la grippe is an infectious disease is now generally conceded. This infection is known as the influenza bacillus of Pfeiffer, which was first found by him in 1892 in the nasal and bronchial secretions alone, and in 1898 was fully identified in the laboratory of the Chicago Board of Health. Influenza bacilli are short and slender, with rounded ends, that stain deeply with aniline colors, for instance, carbol fuchsin, particularly at their ends, and can be readily grown in pure culture upon blood-agar and have been successfully inoculated in monkeys.

Its Symptomatology.—In regard to the period of incubation, nothing positive seems to be known, while the indications lead me to believe that it is rather short, in some instances, apparently only a few hours. Prodromal symptoms are usually wanting, or, when present, usually consist in general languor, dejection, a feeling of oppression, pallor, etc. The first actual symptoms usually set in with marked chilliness, sometimes with a single rigor, which is usually followed by a decided rise in the temperature to 102 and above, accompanied by aching pains through the body. Three forms of the disease may be recognized, and for the sake of brevity, and I hope a clearer understanding of its symptomatology, these forms I will observe, viz., the thoracic, the nervous and the gastro-intestinal, yet the pure varieties, I

would prefer to have you think, are probably not so common as the mixed. The thoracic variety is usually attended with indications of a marked catarrh of the upper air passages, with fever. Nasal catarrh occurs, with prickling and burning sensations in the nose, a sense of heat, a tendency to sneezing, with increased secretion of mucus and muco-pus. The voice is sometimes thick and hoarse, in consequence of the catarrhal process in the larynx, and cough and expectoration point to the extension of the same catarrhal process into the trachea and bronchi. On auscultation, generally disseminated throughout both lungs, sonorous, sibilant and moist rales are often heard. A sense of oppression is often felt, with a feeling as if a foreign body were situated beneath the sternum. Sleep is disturbed, usually by the cough, and aching pains are felt in the thoracic muscles, probably due to the violent coughing. This may closely resemble acute bronchial catarrh, and is probably best differentiated by the presence of the influenza bacillus in the sputum. The inflammatory conditions may invade nearby structures, as, for instance, through the laminal duct to the eyes, where it gives rise to redness, swelling, hypersecretion of the tears and intolerance of light. The frontal sinuses frequently become inflamed and cause the patients to complain of pain at the root of the nose with much tenderness on pressure. Pain in the superior maxilla, above the teeth, is suggestive of extension of the inflammatory process into the antrum of Highmore. The pharynx is very frequently the seat of burning and tickling sensations, with soreness and pain in swallowing. On inspection it is found to be much reddened, swollen, with increased secretion of mucus though sometimes it may be dry. On examination of the larynx and trachea, it is found to be much reddened, with diffuse swelling and increased secretion of mucus or muco-pus. Frequently roaring in the ears, dullness of hearing are present, probably dependent upon the extension of the catarrhal process along the eustachian tube to the tympanum with sometimes suppuration and discharge of pus, through the external auditory canal.

The symptoms of the nervous variety most marked are pronounced headache, usually frontal, and backache, with vertigo, and coma. Sometimes delirium and even marked psychopathy may be present. Troublesome neuralgia sometimes occurs, at times confined to a single nerve, at other times migrating from one to another. The organs of special sense may be attacked by in-

flammatory conditions and paralysis of the ocular muscles may be found. Among the sequelæ of this form may be found protracted pallor, vertigo, irritability and sleeplessness and irregular action of the throat.

The abdominal form is usually characterized by a coated tongue, bad taste in the mouth, mouth sometimes dry and pasty, and loss of appetite, tenderness in the epigastrium, and constipation, dull headache and fever, sometimes vomiting, often quite severe, profuse diarrhea, either of these latter occurring separately or together. In women hemorrhage from the genitals, and abortion have been known to occur in consequence of the trouble.

The general condition of patients suffers to a great extent in many cases. They become much prostrated and very weak, and feel as though they had been attacked by a very grave disease and become pallid in a great degree. With the subsiding of the fever, pains and catarrhal conditions, recovery slowly takes place, and in uncomplicated cases, convalescence is established usually in from 7 to 14 days, while in many cases it may be completed as early as 4 to 5 days.

PROGNOSIS AND TREATMENT.

T. N. YOUMANS,
Bancroft.

It is rather remarkable that a disease which is ushered in with such violent symptoms—the chills, pains, pyrexia, the hyperpyrexia; with such cardiac, nervous, and often renal, symptoms, any or all of which may present themselves in the same patient at the onset, followed by the inevitable prostration and collapse, and often profuse perspiration; should, after all, be followed by such a small percentage of mortality, and in the strong and robust by such prompt and uneventful recovery.

It is not surprising to me that when the present epidemic first swept over the Eastern and Western hemispheres, that there was such a panic, so to speak, not only among the laity, but among the best and most experienced practitioners in the land.

It is generally conceded now by authorities that the mortality ranges as low as $\frac{1}{2}$ to 2 per cent. under our present methods of management and treatment, though there is no doubt a long train of sequelæ that follow in quite a percentage of cases, especially in such patients as are already

afflicted with some organic or constitutional disease, or diseases of the nervous system, and in the aged.

Many patients presenting themselves to us almost daily, date a chronic pulmonary, nervous, gastric, or functional cardiac disease back to a severe attack of la grippe or influenza, from which they have never fully recovered.

The hyperpyrexia of influenza does not seem to possess the same dangers that it does in most of the other fibrile diseases.

First, the course of the disease is a short one, the stage of high fever not exceeding in many cases a few hours, and rarely more than from 2 to 4 or 5 days.

Clinical and physiological experience has proven to the profession that a continued course of fever, such, for instance, as the continued fever of typhoid, which may not exceed 101° to 103° , lasting from 3 to 5 weeks, is much more harmful to the patient than the temperature of 104.5° to 106° is in la grippe, lasting only a few hours, though it leaves him in a weak and prostrated condition.

Of the respiratory symptoms, the severe bronchitis, patches of broncho-pneumonia, and pleurisy, respond promptly in a few days; though croupous pneumonia—fortunately a rare complication—is one of the most fatal of any with which we have to contend.

Bronchiectosis and emphysema of course remain more or less chronic and leave the patient a subject of chronic bronchitis, with a fertile field for the invasion of the tubercle bacilli, while all cases of tuberculosis are more or less aggravated by influenza with respiratory complications.

The gastro-intestinal form, characterized by the vomiting, diarrhea, abdominal pains, usually speedily recover, though there may be marked prostration and collapse. The typhoid or malarial type, though continuing for several days or a few weeks, usually terminates favorably.

Most of the acute nervous symptoms promptly subside, the most important sequelæ being depression of spirits, melancholia and rarely dementia, as well as all forms of neuritis and neurasthenia and the various functional disturbances of the heart.

In fact, Gray says almost every form of disease of the nervous system may follow la grippe.

TREATMENT.

Influenza presents itself in so many forms in different individuals, and with various symptoms associated with functional disorders of different

organs of the body, that the treatment must necessarily be so-called "symptomatic" in many respects in a large percentage of cases.

In general, the patient should have perfect mental and physical rest. Usually a dose of calomel followed by a saline and 10 gr. Dovers powder at night will assist in relieving the pain in the back and limbs, and in producing more or less diaphoretic action.

At the onset aconite, spirits nitrous ether, and liberal doses of K. Cit. aid in reducing the temperature, quieting the circulation and at the same time is usually agreeable to the stomach, which is often easily irritated in this disease.

If fever is excessive resort may be had to cold spongings and small doses of some of the coal-tar antipyretics early in the disease while the heart is strong enough to warrant, their use will somewhat relieve the pain and in a measure influence the fever, though the effect on temperature should not in any way govern the amount of antipyretics to be used.

It is better for the patient to suffer from a moderate degree of pain than the dangers incident to the administration of doses of antipyretics large enough to relieve it entirely. Their influence in producing cyanosis and cardiac weakness, which in a large percentage of cases is subject to the complications of the disease, being much depressed by the action of the grippe poison on the nervous system.

Phenacetine or acetanilid and salol are among the medicinal antipyretics most commonly employed as a sort of routine treatment in most cases.

The use of salol is rather empirical with the profession. Its action seems to be different than we would expect if we administered salicylic and carbolic acids, of which it is composed, separately, though, I think, the rheumatic is a very prominent type of the disease in many cases of grippe.

It has quite a marked antiseptic action through the kidneys and bowels, and some have claimed this an important factor in the treatment.

As soon as the stage of depression and cardiac weakness begins, small and repeated doses of strychnia or nux vomica may be employed, pushed to the physiological limit if necessary, combined with belladonna; and digitalis and strophanthus may be required in protracted cases, or where there is marked organic cardiac disease.

Alcoholic stimulants are valuable in nearly all cases during depression. They aid in digestion, and spur up the nervous system very nicely in a

disease of such short duration, where prostration is marked and recovery usually so prompt.

The delirium is not usually of a very serious nature and passes off, as the fever subsides, without special medication or treatment.

The treatment of the effects of the influenza bacillus on the mucous membranes of the throat, nose, conjunctiva, etc., should be the same as if the conditions were caused by other organisms, though the condition resembling that caused by the Klebs-Loeffler bacillus is not improved by the diphtheria antitoxine treatment.

As the action of the organisms in the closed cavities may cause inflammatory and septic conditions, the same as the regular pyogenic organisms, we would treat such conditions as meningitis, encephalitis, pleurisy, pericarditis, etc., as well as otitis media empyemia, plural, and cerebral abscess on the same therapeutic and surgical principles as we would if the etiology of the same were not Pfeiffer's bacillus.

The irritative cough may require steam inhalation with benzoin, with ipecac and K. Cit. mixtures, and later by the ammonia and cubeb mixtures.

If these fail, we may employ bromides, codeine, heroine, or even morphia, or large doses of a reliable preparation of cannabis indica.

Croupous pneumonia should receive its usual modes of treatment.

On general principles, put the patient to bed with mental and physical rest, nutritious, easily assimilated diet, attention to the skin, kidneys, bowels, and a general supporting treatment during convalescence; with change of air, surroundings, climate, if convalescence is unduly protracted, and meeting the complications as they arise constitute the main features in the management of the disease.

TUSCOLA COUNTY.

DISEASES OF THE HEART COMPLICATING PREGNANCY.

R. J. LIVINGSTONE,
Caro.

Synopsis of paper read before the regular meeting of the Tuscola County Medical Society, April 13th:

After defining the effect of the pregnant uterus, upon the pulmonary circulation and indirectly upon the heart, and particularly the objective and subjective conditions obtaining from lack of compensation of cardiac muscles, he reports two

cases with serious heart failures at full time labor, both conditions previously diagnosed as mitral insufficiency.

He laid considerable stress on the imperative necessity of educating patients to inform the regular physician early in pregnancy of such condition, and impresses the conclusion that not only in mitral stenosis may we look for danger during pregnancy and labor, but in any lesion where weakness in the right heart muscles may become a part.

NERVOUS DYSPEPSIA.

Extract of paper by L. Mott Ryan, M. D., Caro, read at regular meeting of the Tuscola County Medical Society, April 13th.

Nervous dyspepsia according to many different writers was a mixture of nervous diseases and gastric disturbances, but analysis showed that it was a jumble of many morbid states. Neurasthenia had become a well established morbid entity, with certain characteristic symptoms, and where a dyspepsia was dependent thereon, it could be made to disappear by special attention to the stomach. Nervous dyspepsia has been defined as an ailment of the stomach, and upon the nerves of the stomach. The stomach is primarily affected. If there are any symptoms general to the nervous system, they are in consequence of an irritation proceeding from the stomach and are a secondary matter. The treatment must be directed to the stomach, in that way lies a successful issue.

The general symptoms are a lack of hunger, but when the patient does eat, everything tastes good and he usually eats as much as anybody, but afterwards the misery begins. There is a feeling of distention, of heaviness, of eructations of gas, which afford some relief. But the most unpleasant feeling is one of general irritability. There might be a feeling of pressure and irritability of the brain. Such feelings were for an hour or two following a meal, the bowels were usually undisturbed, the patients were incapable of long continued brain work, but the sleep was usually undisturbed. Alcoholic beverages are not well tolerated. The two chief causes are nervous shock, and tobacco smoking. Where mental shock was the cause the whole force of the blow seemed to be expended on the stomach, and not upon the general system as in neurasthenia. Where tobacco is the cause, the symptoms would come on after smoking a cigar or part of one, and are not

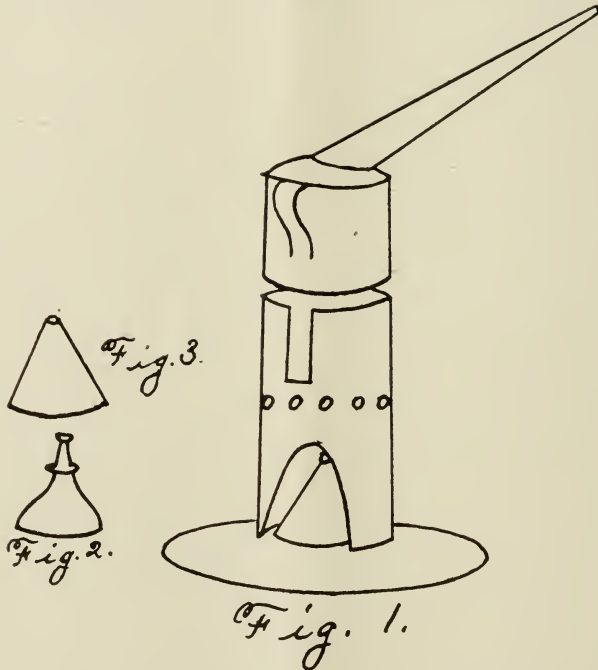
due to the excessive indulgence and poisoning of the system.

A general inhibition of the muscular action of the stomach takes place immediately after eating and passes away when that action is re-established.

While the prognosis is unfavorable by many, to me it has always appeared the reverse, even cases of long standing, will yield to the proper methods. The only distressing sequela being that given a predisposition to melancholy, it might in time lead to that form of insanity.

prognosis of this class of diseases, although it is hoped that the prognosis may be very materially affected by the employment of the inhalation treatment which I wish to champion in the brief time at my disposal.

All of us are well acquainted with the unpleasant results often obtained by the administration of the syrupy-expectorants, so frequently used with a free hand, which contain such nauseous drugs as antimony, ipecac and squills, together with opium or some of its derivatives, which do little else than to derange the appetite



THE INHALATION TREATMENT OF "COLDS" IN CHILDREN.

W. C. GARVIN,
Millington.

Acute catarrhal diseases of the respiratory tract, popularly called "colds" is one of the most frequent conditions for which the physician is called upon to prescribe in children. Its usual form—bronchitis—or "a cold on the lungs," even in its milder forms, in the very young or the debilitated, is a disease of sufficient severity as to cause the consulted physician considerable uneasiness; while the severer forms, in all children, weak or otherwise, should excite his most earnest solicitude.

It is not the scope of this paper to discuss the etiology, pathology, symptomology, diagnosis or

and digestion and depress the system. It is our duty to support and sustain these functions, rather than depress and abuse them in these tender little ones.

That the inhalation of vapors, medicated or plain, are of very great utility in the treatment of all affections of the respiratory tract, is not sufficiently appreciated. I believe that the principal reasons why it is not, and why it has not been brought into more general use, are because of a lack of the proper apparatus at hand; the expense attached to most of the vaporizers and steam atomizers that are found on the market; and the idea in the minds of many of the profession that their employment requires too much "fussing" and inconvenience.

Because I have been able to overcome some of these obstacles, and because of my belief that this method of treatment is superior to any other at

our command, is my excuse for presenting the subject for your consideration.

I wish first to place on exhibition this simple device (Fig. 1) which I have invented and have been using in my practice for the past three or four years. It is made by a tinner at a very trifling expense, and he now keeps them in stock and sells them to my patients for 50 cents each.

Its base is composed of a tin pot cover which is large enough to prevent the apparatus being easily upset. The boiler is a common tin drinking cup which is supported by a collar fastened to the convex surface of the base, having an opening at one side large enough to admit the lamp and a free ingress of air to sustain the flame. The collar is perforated clear round near the bottom of the cup to make an outlet for the heated air. To the cover of the cup, or boiler, a long spout is soldered for conducting the steam. At the inner opening of this spout a small spring is fixed to hold a sponge upon which the medication employed is placed. The lamp is a small squirt oil can (Fig. 2) which holds sufficient alcohol to burn twenty minutes or more. The neck of the oil can is cut short and a lamp wick inserted. An asbestos covered tin jacket (Fig. 3.) is provided for the lamp to prevent an explosion by the overheating of the alcohol. Wood alcohol is used in the lamp. To get a good volume of steam not more than one-half or three-fourths of an inch of water should be used in the boiler. If the water is heated before hand, much time may be saved in generating steam.

To make the treatment efficient, the patient should be put under a small tent. Care must be taken not to get the tent too large. A satisfactory one may be provided in several different ways. One is to throw a heavy sheet over an opened umbrella. Another, by erecting a T-shaped piece of wood at the head of the crib and throw a sheet over this. Still another is for the mother to sit in a high-backed rocker and hold the child in her arms throwing a sheet over all. This last is generally the best for young or timid children. When the other tents are used it is well for the mother or nurse to put her head under the tent to see that no accident happens. Instead of an ordinary cotton sheet, one of rubber, or oil-cloth, may be used. The better the tent the more satisfactory are the results from inhalations.

The vaporizer should be so placed that the end of the spout is just inside the tent, at a level with the patient's face, but far enough away to prevent burning him. This arrangement keeps

all the heat, except that from the steam, outside the tent.

The technic for the employment of this method is taken largely from Holt's work on "Infancy and Childhood" in which he says: "It may in a great majority of cases take the place of the administration of drugs by the mouth, a very great advantage in infants. In the early part of the disease relaxing inhalations, like simple water vapors, or lime-water, may be used. Later turpentine, creosote, terebene, or encalyptol may be added." Holt gives creosote the preference. I use creosote and encalyptol combined, because of the more agreeable odor, and place about ten or fifteen drops of the mixture on the sponge for each seance. The inhalations are used for ten or fifteen minutes, from four to twelve times daily. They may often be used at night, while the patient is sleeping, without awakening him.

I feel that too much cannot be said in commendation of this treatment, as in its employment such other measures as counter-irritation and stimulants when required are not interfered with and bring about the most happy results.

In summing up the salient points which should commend the inhalation treatment of "colds" in children, emphasis may be given to the following:

First. The struggling tantrums so often held with the little patient in the attempt to force an unpleasant nostrum down his throat is completely dispensed with.

Second. By the use of inhalations the stomach is not disturbed and feeding is not interfered with,—certainly a great advantage in the very young and delicate.

Third. The ease with which the treatment is employed. It can be used while the patient sleeps.

Fourth. Medication is applied directly to the diseased condition.

Fifth. The efficiency of the treatment is undisputed, and

Sixth. The apparatus is simple and inexpensive and can be used by any intelligent person.

WASHTENAW COUNTY.

The annual meeting of the Washtenaw County Medical Society was held last evening at the residence of Dr. James M. Hueston in Ypsilanti. Dr. Wallace, of Saline, contributed a paper and cases were reported by Drs. Darling, Solis, Wessinger and Hueston. The following officers were elected for the ensuing year: President, Dr. C. G. Darling; Vice-President, Dr. J. A. Wessinger; Secretary-Treasurer, Dr. John William Keating; Board of Directors, Drs. James F. Breakey, James M. Hueston and James B. Wallace.

THE NEW METHOD OF TREATING TYPHOID FEVER.

BENZOYL-ACETYL PEROXIDE, OR ACETOZONE AS AN
INTESTINAL ANTISEPTIC, IN TYPHOID FEVER.

Frederick G. Harris, of Chicago (*Therapeutic Gazette*, March 1903) reports 128 cases of typhoid treated in Cook County Hospital, Chicago, with acetozone. The cases first admitted seemed to indicate that the epidemic was of a mild form, but later the disease proved to be of a severe type and complications were numerous. The author obtained the most satisfactory results with aqueous solutions of 15 grains to the quart which the patients were urged to use very freely to quench the thirst, while in addition four to six fluidounces of the solution were given every four hours as a therapeutic measure. The movements of the bowels were regulated with sodium phosphate or magnesium sulphate.

The temperatures of the patients, on admission, were high, as a rule. In 117 cases under acetozone treatment the average duration of the fever was 18 days.

The number of recoveries was 117, or 91.4 per cent., while 11 patients died, a mortality of 8.59 per cent.; statistics of the cases of typhoid fever in the same hospital (Cook County), not treated with acetozone show a death rate of 13.1 per cent. The author is of the opinion that under the acetozone treatment, in favorable cases, the duration of the disease was materially shortened, and the most disagreeable symptoms were ameliorated. He declares that the characteristic fetor of the stools and the peculiar odor of the wards was greatly diminished; there were less stupor and delirium and less tympanites, and the usual diarrhea was checked. An average of 138.12 grains of acetozone were used in each case. Finally he reached the conclusion that when cases can be seen during the first week of the attack and large amounts of acetozone given, assisted by a gentle laxative, the temperature will return to the normal in from ten to twelve days.

Four cases of typhoid fever, in which acetozone was employed with satisfactory results, were reported by Charles Emil Brack, of Baltimore (*Medical Age*, January 25). In each case the treatment consisted in the use of acetozone in solution. The first three patients, adults, received 30 grains of the drug per diem; the fourth, a child of 4 years, received 8 grains each 24 hours. Prompt recovery occurred in each case.

James Billingslea, of Baltimore (*Atlanta Journal-Record of Medicine*, February, 1903) reported 25 cases of typhoid fever treated with acetozone. The diagnoses were confirmed by board of health examinations. The treatment consisted in cleaning the bowels thoroughly by means of calomel. Liquid diet was prescribed and cold or sponge baths were used as occasion required. The special treatment consisted in shaking 15 or 20 grains of acetozone powder with one quart of water, allowing the insoluble residue to subside. The patient was given the clear solution to drink freely, the whole amount of one quart

being taken during twenty-four hours. The writer suggests that one part of the acetozone solution may be mixed with three parts of milk if thought desirable. The action of acetozone will be materially aided by the use of a mild saline laxative.

He found that the feces soon lost their disagreeable odor by this treatment, and cold baths were required to a much less extent than with other treatment. Furthermore, the nurses universally affirmed that they found patients under this treatment easier to care for. No evil effects were noted from the use of acetozone.

A further contribution to this subject appears from the pen of J. J. Driscoll, of Chicago (*The Kansas City Medical Index-Lancet*, January, 1903) who relates his experience in six cases. He found that acetozone reduces the temperature, shortens the duration of the disease materially, while it does not seem to have any ill effects on the heart. The feces are completely deodorized in 36 to 48 hours and tympanites rapidly disappears.

THE USE OF ANTIPHLOGISTINE IN UTERINE AFFECTIONS.

The value of antiphlogistine in acute and chronic conditions of the ovary and uterus is prompt, permanent and certain.

During menstruation the introduction of any medicinal agent into the vagina is contra-indicated and at this period the pain of catamenial irregularities can best be controlled by applying antiphlogistine over the abdomen warm and thick and covering with cotton and a compress. This practice persisted in for several periods prevents headache, lumbar pain and other vicarious concomitant symptoms. Many women who have been physically incapacitated for a day or two each month have been permanently relieved by systematic use of antiphlogistine at each menstrual illness. A potent influence is exerted over the sympathetic system which is so intimately associated with the physiological functions of the uterus that efferent stimulation neutralizes afferent irritation.

In the interval between menses, antiphlogistine is successfully applied to the cervix of the uterus in the following manner: Make a small gauze sack and fill it with antiphlogistine slightly larger in volume than the ordinary cotton tampon. Tie a string around the improvised sack and pass the antiphlogistine tampon with dressing-forceps through the vaginal speculum to the os of the uterus, molding around the cervix. Through the induction of osmosis and dialysis of inter-cellular fluid, intra-mural tension is quickly reduced, local analgesia and undisturbed cervical drainage follow. For relief of a patulous uterus, the indurated cervix of endometritis and all irregularities of menstruation, including amenorrhoea and dysmenorrhoea, this treatment is superior to the ordinary glycerine tampon, rendering favorable results to the clinician and patient.

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WILLIAM F. BREAKEY,
PRESIDENT OF THE MICHIGAN STATE MEDICAL SOCIETY.

THE PRESIDENT OF THE MICHIGAN STATE MEDICAL SOCIETY.

Wm. F. Breakey, soldier, physician and teacher, was born at Bethel, Sullivan County, N. Y., Sept. 10, 1835. He attended and taught school in the vicinity up to 1852, when he went to what was then called the University of Northern Penn., at Bethany, for two terms. In 1856 he went to Albany, where he took one course of lectures in medicine; going to Ann Arbor in 1857 and graduating from the Medical Department of the University in 1859. He began practice at Whitmore Lake, Mich., remaining there about two years.

In April, 1862, in answer to a call for volunteer surgeons, he offered his services, and as acting assistant surgeon began his military medical service in the Southwest. In June of the same year he returned to Michigan, and on July 1st was given a commission as assistant surgeon in the 16th Mich. Vol. Infantry. He continued his military work until forced to resign in May, 1864, by reason of injuries received in service.

During his army service he was much of the time on detached duty. In the winter of 1862 and '63 he was in charge of the Baptist Church Hospital at Alexandria, returning to his own regiment only to be again detailed as surgeon of the 20th Maine, all of the medical officers of this regiment being sick. Here he was in charge of a division smallpox hospital. He was then transferred to Battery D of the 5th U. S. Artillery and 9th Mass. Battery. During this detail, at Gettysburg in particular, his surgical experiences were unlimited.

Following his retirement from military service he returned to Ann Arbor, where he has been in private practice ever since. From 1865 to '69 he taught anatomy in the Medical Department of the University, and since 1890 has been Lecturer on Dermatology and Syphilis. He was local U. S. pension examiner until the establishment of the Examining Boards, since which time he has been on the local Board almost continuously.

Dr. Breakey has been a member of his County Society for many years and has served in all of its offices; an active, useful and honored member of the State Society for 27 years; a liberal contributor to current medical literature. In practice he has been thorough and successful, a firm believer in and an adherent to the Principles of Medical Ethics; conscientious in his relations to his patients, and courteous and considerate in his relation to his brother practitioners. In nominating him for the highest office in the gift of the State Society, his fellowtownsman Dr. Flemming Carrow said: "Dr. Wm. F. Breakey is the ultimate expression of a good citizen, a successful physician and an honorable man."

Accepting the Presidency at a time when the Society needs a trained hand to keep straight the course shaped by such indefatigable workers as his immediate predecessors, Drs. A. E. Bulson and Leartus Connor, he will, it is confidently expected, bring to the office the benefits of ripe age, training and experience.

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PRESIDENT'S ADDRESS.*

REORGANIZATION OF THE MEDICAL PROFESSION OF MICHIGAN.

ALBERT E. BULSON,
Jackson.

Before entering upon the weightier matters that engage the attention of the Society, permit me to express my appreciation of the distinguished honor which you conferred upon me, when you selected me as your presiding officer for the year just closing.

It has been my most earnest desire to give to the Society the very best service at my command, and the results must needs be left with you.

Among the many duties devolving upon the President of the Michigan State Medical Society, a part of which are prescribed by the Constitution and By-Laws,

*Delivered at Annual Meeting of the Michigan State Medical Society at Detroit, June 11, 1903.

is the making of an annual address. Not because I consider it a duty, however, would I address you upon this occasion, but because I greatly desire that you shall carefully consider the growth and enlarged sphere of the Society.

We meet to-day under entirely new conditions,—this session being the first under the new regime, and the twelve months just closing, has been the crucial year of our existence as a Society.

I am soon to take my leave as your presiding officer, and, as I take glad pride in giving you an account of my stewardship, I have chosen to briefly recapitulate the growth of the reorganization movement, and what that growth signifies when transmuted into action along the various lines of thought and work in our own state.

Up to the beginning of the present year, the efforts of the Society were directed toward organization in the simple form.

My honored predecessor in office, Dr. Leartus Connor, gave us at the last annual

meeting, a lucid resume of the history of the Society from its organization in 1819, covering a period of eighty-three years, and those who heard this most excellent address, or have since read it, as published in *The Journal of the Society*, can but be impressed with the mettle of the men who organized the Society, and made up its membership.

Looking backward, from the vantage-ground of the present, we can but marvel at the work accomplished by a few faithful, self-sacrificing physicians, in organizing and maintaining, through so extensive a period, a society which has been the peer of any medical society in the country.

If the Society, always numerically small under the old regime,—never having reached a membership of seven hundred, could hold such exalted ideals, and maintain so pre-eminent a standing among her sister states, we have reason to expect larger things from the profession to-day, if we can unite, into one harmonious whole, the four-thousand five-hundred physicians of the state of Michigan.

For several years the medical journals and societies of the various states have been advocating the importance of a thoroughly organized medical profession, but a certain apathy existed among its members, and the suggestions met with no response upon their part, even though it appealed to their own best interests.

But, thanks to the perseverance of such men as McCormack, of Kentucky, Simmons of Chicago, Reid of Ohio, some of the "wheel-horses" of Michigan, and a host of others that I might mention, who were actuated by one common purpose, and a genuine belief in the future greatness and exalted dignity which our chosen

profession should occupy. Their appeal for a broader and higher plane of organization has not been in vain, but, like the "Casting of the bread upon the waters," it has returned a hundred-fold.

A NEW ERA.

In 1901, at the St. Paul meeting of the American Medical Association, a "New era" dawned upon the medical profession of the country. A plan that had been most carefully formulated, after years of faithful and earnest labor, was presented to the Association, and was found to be so complete in all its provisions, that it was immediately adopted. The plan contemplated the reorganization of the entire medical profession of the United States upon one common basis.

The first step was toward the reorganization of the American Medical Association, to be followed by the reorganization of the State and County Societies, each in harmony with the other and with the national body; the unit to be the County Society,—the real, active, energizing force.

Acting upon a recommendation from the American Medical Association, the President of the State Society, Dr. Lear-tus Connor, appointed a committee of three members to formulate a new constitution and by-laws, which should be in conformity with the new plan of organization.

After many meetings of this committee a report was finally submitted to the State Society, at the annual meeting at Port Huron, in 1902. This committee recommended the making of some radical changes in the plan of organization of the Society. The purpose of the Society, as recommended by the committee, is de-

fined in Article II of the Constitution as follows:

"To federate and to bring into one compact organization the entire medical profession of the state of Michigan, and to unite with similar societies in other states to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests, and to the enlightenment and direction of public opinion in regard to the great problem of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life."

To the happy surprise of the Committee on Reorganization, its report was unanimously adopted by the Society, without debate or discussion of any kind. It was also voted that the committee should be continued, and empowered to make such additional changes in their report, as, in their judgment, should appear essential to the completion of the work of reorganization of the Michigan State Medical Society.

July 10th, 1902, the committee with the newly appointed Council, met in Detroit, and made some important changes, notable among them being the reduction of yearly dues from three to two dollars, the same to be paid to the Secretaries of the County Societies, the latter paying the same to the Secretary of

the State Society, by an assessment *per capite*.

As the work of reorganization and the publication of the Journal of the Society would greatly increase the expense the first year, it will readily be seen that the reduction of the annual dues from three to two dollars would naturally make some of the committee a little pessimistic, but with an abiding confidence in the plan of organization, and the hearty co-operation assured by the profession of the state, they could readily see the wisdom of the change.

The purpose of the committee was to make the annual dues as small as would be commensurate with the financial demands for paying the actual running expenses of the Society.

Provision was also made for the publication of the transactions of the Society in journal form, a copy to be furnished each member of the organization in good professional standing, without extra cost.

THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY.

The importance of having a representative State Medical Journal, as the official organ of the Michigan State Medical Society, needs no comment. With the active co-operation of the medical profession of our state, it will stand as an exponent of advanced medical thought, and fill a long-felt want.

Every County organization of the state can have equal representation in The Journal, and to this end, reports of meetings of local Societies, scientific papers, discussions and reports of cases are solicited by the editor for publication. As The Journal of the Society should be the mouth-piece of the profession of Michi-

gan, the articles published in it should be, as far as possible, of original, scientific research, and of a quality that will reflect credit, not only upon the author, but upon The Journal itself, and the profession of the state which it represents.

THE HOUSE OF DELEGATES.

Article V of the Constitution provides for a House of Delegates, which "Shall be the legislative and business body of the Society, and shall consist of (1) delegates elected by the Component County Societies, and (2) *ex officio*, the officers of the Society, as defined in this Constitution."

Chapter IV of the By-Laws, provides for representation in the same as follows: "Each Component County Society shall be entitled to send to the House of Delegates each year, one delegate for every fifty members, and one for each major fraction thereof."

The wisdom of inaugurating this branch of the State Society, appeals to the good judgment of every member, for while it is thoroughly representative, it will do away with the old method of conducting the business affairs of the Society, which was characterized by the loss of valuable time, and the embarrassments incident to the manipulation of a large and unwieldy general session.

While the supreme power is vested in the House of Delegates, the form of government is thoroughly democratic. All meetings are open to the members of the Society, and a summary of all proceedings is to be presented at the last general session of each annual meeting, and published in The Journal. To the House of Delegates is intrusted the division of the state into twelve Councilor Districts, cor-

responding with the twelve congressional districts, also the election of a Councilor, to be the active organizer and representative of the Society, in his district. Upon the wise and judicious selection of the Councilor depends, in large measure, the success of the Society.

It is also the function of the House of Delegates, to "Consider and advise as to the best interests of the profession, and shall use its influence to secure and to enforce all proper medical and public-health legislation, and to diffuse popular information in relation thereto."

THE COUNCIL.

The Council constitutes the real, working, energizing force of the Society. By referring to Chapter VIII, Section 2 of the By-Laws, you will see that, "Collectively, the Council shall be the Board of Censors of the Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members to the Component Societies, or to this Society.

"All questions of an ethical nature shall be referred to the Council, and it shall also hear and decide all questions of discipline affecting the conduct of the members, or of a County Society upon which an appeal is taken from the decision of an individual Councilor.

"It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality, and shall continue these efforts until every reputable physician of the state has been brought under medical society influence.

"The Council shall have authority to appoint an editor for The Journal, and such assistants as it deems necessary, and shall also pass upon all matters of the Society,

pertaining to the disbursements of money."

I have enumerated only a few of the many duties devolving upon the Council, and, as the duties are so manifold, and the powers so great, much depends upon a wise selection of men who are to conduct the business affairs of the Society.

THE COUNTY SOCIETY.

To-day the County Medical Society is the chief center of interest, as through it only can a physician become a member of the State Society, and the American Medical Association. Under the new regime, the County Society is made the sole judge as to eligibility for membership, and, it seems to me, that one of the wisest steps in the whole plan of reorganization was taken when the County Society was made the basis for membership in the state and national bodies. As the County Society is now the unit, it should be made as strong and representative as possible, and to this end, around it should cluster the strength and professional ability of every physician within its jurisdiction.

That there would be great differences of opinion among physicians of the state regarding the interpretation of Chapter XIII, Section 5 of the By-Laws, was to be expected. The clause referred to reads as follows:

"Every reputable, and legally-registered physician, who is practicing, or who will agree in writing, over his own signature, to practice non-sectarian medicine only, and to sever all connections with sectarian colleges, societies, and institutions, shall be entitled to membership."

In view of our habits of thought, and the ethics of the past, this would seem to be an unreasonable clause to ask a

"Regular physician" to subscribe to, but, after due deliberation upon the matter, we must be candid enough to admit that we have a common ground with all who are striving to improve the health, the sanitary education, and the general welfare of the community; nor need we fear that this evolution of our ideals will, in any way, weaken our principles or reflect discredit upon our organization, but, on the contrary, I believe that we have strengthened the cause thereby.

Any representative gathering of physicians can be depended upon to do the right and courteous thing, in any and every emergency that may arise. Marcus Aurelius has said that, "No man can injure us save by our own consent," and, as we, when we harbor a grudge against another individual, are the more deeply injured than the person who is the object of our hostility, so do we receive the deeper injury when we cherish dislikes and prejudices against our fellow-physicians, simply because they fail to see things just as we do. The incorporation of the clause referred to in the new Constitution, means only what has long been an unwritten law, and settled belief among the members of the profession. If you will take the time and trouble to examine the records of the Society, you will find that, in years past, there have been physicians of various schools of medicine enrolled among its membership, and, in reality, they have conformed with the provision as incorporated in the By-Laws in question in order to become members; and as far as my knowledge goes, every such member has proven himself worthy of the confidence reposed in him.

The advancement in medical science the past twenty-five years, has wrought a

marvelous transformation in the practice of medicine and surgery; and bacteriology, serum-therapy, electro-therapy, and public hygiene have placed medical men upon a common ground, and every physician in the state ought to be willing to join hands with every other physician in an effort to alleviate human suffering. My own desire in the matter is to see an organization which shall draw to its councils every reputable medical man and woman in our state, and at the same time, that every member of it shall be known to possess a broad and liberal knowledge of medicine as a true science and art.

The medical profession of our state has been a most potent factor for good in every community, but we all well know that because of the criticisms and jealousies among physicians, which have been a reproach and a by-word among the laity, the influence which we might have exerted for the good of the community at large, has never been brought into active operation in its fullest sense, but has remained dormant in consequence.

In our public gatherings we have been careful to eulogize the value of our educational influence over the masses, yet, I ask you, how much weight have our opinions as medical men amounted to in public matters, and with what indifference have those who make our laws listened to our protests and suggestions? Why is it, that during the eighty-four years of our existence as a Society, that our influence has been so feeble that an almost countless number of absurd fads and intangible delusions should gain such a foot-hold and spread their pernicious influence among the people? Had the medical profession of our state been thoroughly organized, and standing shoulder to shoulder

in interest in the past, it could have wielded an influence upon our Legislature, that would have brought about far different results in medical legislation, than those which stand upon our statute books to-day.

But I am proud to say that a brighter day has dawned, for, by the unanimous action of the Society at the last annual meeting, the Michigan State Medical Society was placed "In affiliation with the majority of the other states in the union, and in step with the great national march of medical progress; and when we stop and reflect upon this great change that has come to be, we at once recognize the fact, that we have drifted by so gradual a process into the current of medical evolution and progress, that we have scarcely noticed a jar or obstruction in the process."

RING RULE.

Hitherto, there have been some serious criticisms made regarding the conduct of the affairs of the Society, the charge being, that a few of the more prominent members from the larger cities controlled its affairs, and, that it was easy to carry through a scheme of almost any kind, in which the physicians of the state were not directly interested. While I most earnestly protest against any and every charge of ring rule against the members of the Society, I can readily see the reason for accusations of this character. It will be remembered that the membership of the Society never exceeded 635 up to the time of the Port Huron meeting, in 1902, and that the membership was made up to a marked degree, from the larger cities of the state; and as a natural result, they may have shaped the affairs of the Society, in a meas-

ure. But, under the new regime with its House of Delegates made up from the Societies of every county in the state, and with equal representation according to membership, it precludes even the possibility of any such criticism ever being made again.

LECTURERS.

At the semi-annual meeting of the Council, a resolution was passed directing the president to appoint a lecturer for each congressional district, whose duty it it should be to hold himself in readiness to assist upon the programmes of the various County Societies in his district by giving a lecture, reading a paper, or holding a clinic. It must be admitted that this is a wise provision, and if systematically and thoroughly carried out will be of inestimable value in furthering the interests of the meetings of the County Societies. It is a recognized fact that outside talent lends interest to the programmes, and stimulates attendance.

The German government,—realizing how impossible it is for the physicians in the rural districts to keep in touch with advanced medical thought, have but recently appointed a corps of eminent physicians to visit the different sections of the empire, and give post-graduate instruction, or in other words, carry schools of instruction to those members of the profession who seldom attend medical societies, or receive post-graduate instruction of any kind, after graduation. It has been the pleasure of the President to appoint seven of the required number of lecturers, upon the recommendation of the respective Councilors, who have been able to give valuable aid in the work of the several districts. The remaining five are yet to

be appointed, the matter going still under advisement.

THE CODE.

The Committee on the Revision of the "Code of Ethics" of the American Medical Association has made some notable changes in that famous document. The word "Code" has been eliminated, and the expression, "Principles of Medical Ethics of the American Medical Association," adopted as adequately descriptive of the present status of the profession to-day. The principles of medical ethics as now in force leave each state to form such code, and establish such rules as it may regard fitting and proper, for the regulation of the professional conduct of its members; providing that there shall be no conflict with the established ethical principles of the American Medical Association. This action gives each State Medical Society discretionary powers in regard to disciplining of members, and the regulation of all other purely state affairs. I wish to call your especial attention to Chapter II, Section 7 of the "Principles of Medical Ethics" as it now reads. By referring to the section mentioned, it will be seen that it speaks explicitly in regard to the matter of advertising. It is incompatible with the ethical and honorable standing of members to resort to the methods used by charlatans, in publishing accounts of surgical operations, boasting of cures, or in any manner heralding their success to the public at large through the medium of the public press. It is also unethical to use the names of the American Medical Association, the State or County Societies in advertising health resorts, sanitariums, etc.

It takes for granted that if any member is conducting a sanitarium or health resort, he is doing so along the line of purely ethical principles, and that by the conduct of the same, will give no grounds for criticism on the part of the profession at large.

RECIPROCITY.

Your President and Secretary have been in correspondence with several of the State Societies, regarding medical reciprocity, and all without exception, express a hearty desire to co-operate in the movement; and it is highly probable, that as soon as the proper antecedent action has been taken, and a uniform and equal requirement adopted, the interchange of medical certificates will, without doubt, be unanimously endorsed by the various State Societies, and reciprocity of membership established.

The promiscuous medical legislation now in force in the various states, prevents a physician of one state, even though legally qualified to practice therein, from crossing the border into another state to practice his profession (except for consultation) unless he submits to, and passes a creditable examination. I think that we are all of the opinion that the demanding of an examination from an educated and reputable physician, who may have pre-eminent standing in the profession, by virtue of education and years of practice and experience, is a great injustice, and should be remedied by the law of reciprocity.

In this connection I would like to call your attention to an item in the Journal of the American Medical Association, which reads as follows:

"There was held in Chicago, April 23, 1903, a meeting of the representatives of the medical ex-

amining boards of Indiana, Ohio, Iowa, Kansas, Michigan and Wisconsin. An organization was formed, entitled the American Confederation of Reciprocating, Examining and Licensing Medical Boards of the United States of America, having for its object the establishing of reciprocal relations between the medical examining and licensing boards of the United States."

For the purpose of establishing medical reciprocity among the states composing it, the American Confederation of Reciprocating, Examining and Licensing Medical Boards does hereby agree to the following propositions as a basis of reciprocal medical registration:

(a) That a prerequisite to reciprocal registration, the applicant therefor shall file in the office of the board of the state of which he is a licensee such evidence as will enable the said board to certify that he is of good moral and professional character. Such certificate shall be filed with his application for reciprocal registration in another state.

QUALIFICATION 1.

(b) That a certificate of registration showing that an examination has been made by the proper board of any state, on which an average grade of not less than 75 per cent. was awarded, the holder thereof having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in the state where reciprocal registration is sought, may be accepted, in lieu of examination, as evidence of qualification. Provided, that in case the scope of the said examination was less than that prescribed by the state in which registration is sought, the applicant may be required to submit to a supplemental examination by the board thereof in such subjects as have not been covered.

QUALIFICATION 2.

(c) That a certificate of registration, or license issued by the proper board of any state, may be accepted as evidence of qualification for reciprocal registration in any other state. Provided, that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date thereof was prior to the legal requirement of the examination test in such state.

During the preparation of this address, the following letter relative to reciprocity was received by me from Dr. B. D. Harrison, Sec'y of the Board of Registration:

My Dear Doctor—I am in receipt of yours of 3rd inst., for which please accept my thanks. The Governor signed the bill yesterday afternoon. Re status of medical reciprocity. You state that you have learned that negotiations are in progress between the states of Ohio, Indiana, Wisconsin, Michigan, Iowa and Kansas. It has gone past the stage of negotiation; Michigan is reciprocating daily with Indiana and Wisconsin under Qualifications Nos. 1 and 2, and will in a short time reciprocate with Ohio, Iowa and Kansas under both qualifications, just as soon as these latter states have completed their forms. All these states reciprocate with one another and with Illinois, New Jersey and Maine, and some other states, under Qualification No. 1. In addition to these we have some twenty states' applications in for membership in the Confederation, so that by January 1st, next, practical reciprocity will be in full swing in at least twenty-five states. A year ago last January, upon suggestion from the Michigan Board, a meeting was held in Chicago and the American Confederation of Reciprocating, Examining and Licensing Medical Boards was formed, with a membership composed of state boards, not members of state boards. Several years ago the National Confederation of State Medical Examining and Licensing Boards was formed, composed of members of state boards and others favoring reciprocity. This latter association has done absolutely nothing towards bringing about reciprocity, and as it is composed of members of state boards instead of state boards it has not power to do anything practical. For this reason a new association was formed as suggested by Michigan, and within a year it has succeeded in actually accomplishing reciprocity upon practical lines. Hardly a day passes that I do not pass upon one or more reciprocity certificates, so you will see that at the present time reciprocity is not an indefinite theory but a practical accomplishment; practical reciprocity is virtually a Michigan product.

As Michigan has but recently raised the standard of qualifications for the practice of medicine in the state through the Nottingham amendments to the Chandler Bill, so she has also been an active factor in arranging the provision for reciprocity among the states.

The work already accomplished in this regard, is gratifying, indeed, and reflects

great credit upon our Legislative Committee. To Dr. B. D. Harison, chairman of the same, who has given his most earnest care and attention in the forwarding of these two important features of the work, we owe our special thanks.

OBJECTS OF ORGANIZATION.

The objects to be gained by organization are systematically outlined in the following paragraph taken from the report of the Committee on Reorganization, which was made by Dr. N. S. Davis, of Chicago, one of the founders of the American Medical Association, in 1887:

"The three objects of paramount importance to be accomplished by medical organization are: (a) the promotion of direct personal and social intercourse between physicians, by which mutual respect, personal friendship and unity of sentiment are greatly promoted; (b) the more rapid increase and diffusion of medical knowledge, scientific and practical; and (c) the developing, unifying, concentrating and giving efficient practical expression of the sentiments, wishes, and policy of the profession, concerning its educational, legal and sanitary welfare and the relations of the latter to the community as a whole."

The past history of the medical profession of Michigan has furnished us much inspiration for the future, and we have taken a modest pride in the growth of our work during the past year, with 58 branch societies organized, embracing 72 counties of the state with a membership of 1712, an increase of over 1000 since the last annual meeting.

But, while we congratulate ourselves upon our additions to membership, our in-

creased usefulness as members of the profession, the well-merited recognition of our influence, and the good we can do each other and the commonwealth at large, we must realize that our work is yet in its incipency; that there are still problems for solution and facts for reflection; and it is but reasonable to expect that the active, aggressive work of the past shall not cease until the name of every eligible physician in our state is enrolled upon the escutcheon of the Society. So, let us redouble our efforts the coming year, and try to realize the importance of our opportunities and responsibilities, and, by giving it the loyal and enthusiastic support which the work merits, we shall help to retain the position of pre-eminence which our Society has attained to among her sister societies in the various states.

SUGGESTIONS.

The County Society is the unit in our work, and, as upon it depends the organic life of the State Society, and of our representation in the American Medical Association, let me urge upon you the necessity of each one feeling a personal responsibility for the future success of his own local society. Set aside the one afternoon and evening as prescribed by the Constitution and By-Laws for attendance upon the meeting, and hold that engagement paramount to all social duties. A certain amount of enthusiasm and sacrifice is necessary to the success of any undertaking, and it is only by systematic, persistent, pains-taking effort, and by personal solicitation that we can hope for advancement in the cause.

Encourage the young men of the pro-

fession to identify themselves with the Society, for the mutual benefit of both. Be active and diligent in the work, and safeguard the interests of the profession in every possible way. Be broad-minded and liberal, at the same time seeking to protect our noble profession from any and every influence that would seek to degrade it.

It is through the County Society only that the individual factor can be reached, and it is there that we must concentrate our efforts, bringing to bear upon it any and all measures that will tend toward its up-building, do away with petty jealousies, promote good-fellowship, aid scientific and educational advancement, and otherwise exert an elevating influence upon its members. This done, the State and National Societies will take care of themselves. The broader interests of the work, which reach out from the County to the State Organization, and through that to the National, will create an altruistic atmosphere, that is inimical to strife and jealousy, and will enable us to hand down to our successors our noble art in the highest state of perfection attainable by us, and to gain from the public the respect which our profession merits.

FINALE.

Finally, I wish to bear witness to the harmony of thought and action as manifested by the Officers and Councilors of the past year; and the faithful and efficient service rendered by all alike, causes us to wonder at the ability and unselfish devotion which they have bestowed upon the interests of the Society.

The efficiency and self-sacrificing labor of those who make up the Council are

worthy of especial mention. A rare zeal and enthusiasm have characterized their work from the beginning, and most generous have they been in giving of their time and money to the furtherance of the cause. I have been privileged to meet most of the Councilors, in their work in the various sections of the state, and I have found, with one or two exceptions, an equal amount of enthusiasm and a hearty co-operation in support of the new plan of organization.

To the Chairman of the Council, Dr. Leartus Connor, my thanks are due for valuable aid in solving the complex problems which have confronted us, and for many kind and helpful suggestions.

I wish to make honorable mention of the work of our efficient Secretary, Dr. Andrew P. Biddle. The extra work of the year incident to the successful launching of *The Journal* and editing the same, assisting the Councilors in their work in the various districts, together with the multiplicity of duties which fall to the Secretary in so large a Society, has been executed in a manner that is well-nigh perfect, and will be difficult to equal. The tireless energy, the fertility of resource, and the hearty co-operation not of the Secretary alone, but of the other Officers and Councilors as well, have made possible what would otherwise have seemed truly formidable.

In conclusion, I would say to the members who are to be the Officers and Councilors for the coming year, and to the profession at large, that you vouchsafe to my successor in office, the uniform courtesy, kindly consideration and assistance that have been given me.

A CASE OF STREPTOCOCCIC PUERPERAL INFECTION SUCCESSFULLY TREATED IN WHICH SERUM THERAPY WAS USED.*

H. W. LONGYEAR,
Detroit.

This case, being typical of a number seen by the writer during the past five years, is reported for the purpose of illustrating four points, viz.: First, the necessity of an early bacteriologic diagnosis; second, the beneficial effects of vigorous treatment, both local and systemic, begun early and carried through with definite plan and aim; third, the probable status of serum therapy as applied to this form of infection; fourth, the fact that iodine is practically a specific remedy for local use in streptococcic infection.

I was called to see the case by Dr. Hugh Cary, of Delray, on March 17, 1903, this being the third day after confinement of a dead child by a difficult and tedious instrumental delivery. This was the sixth confinement, the last three by the same physician. Dr. C. was assisted at the accouchement by another physician and a neighbor who acted as nurse.

The temperature and pulse began to rise immediately after labor and the bowels to distend with gas. Patient had been vomiting a greenish fluid at intervals since the confinement.

The condition of the patient at my first visit was as follows: Age 43, blonde, heavy build, expression good and not especially anxious; pulse 104, regular;

*Read before the Section on Obstetrics and Gynecology at Annual Meeting of the Michigan State Medical Society at Detroit, June 11, 1903, and approved for publication by the Committee on Publication of the Council.

temperature 100.6°; position on back, limbs extended; abdomen enormously distended with gas and tympanitic everywhere, but not very sensitive to pressure, the distention being apparently due to paralysis of peristalsis from other cause than peritonitis. The uterus was apparently of normal size and easily palpated, and not especially sensitive to touch. The discharge from the vulva was of a very foul odor, quite free in quantity, and of a red color. The lips of the vulva were very much swollen, the perineum not ruptured but a number of small abrasions were present and these were covered with a thick, white pseudomembrane. Examination with the speculum showed a number of similar abrasions on the vaginal wall, all being covered with this same pseudomembrane, which was as closely adherent as the deposit caused by the Kloebs-Leffler bacillus, which it resembled in appearance. No pseudomembrane could be seen on the cervix uteri. The os was patulous. A small pledget of cotton was soaked in the discharge which bathed the cervix and placed in a sterile bottle for bacteriologic examination. This specimen was immediately sent to Dr. Joseph Sill, of the Detroit Clinical Laboratory, with the request that he make a smear examination and report by 'phone.

Local treatment was begun without waiting for the report, and was as follows: First, thorough douching of vagina, with iodine solution—tinct. iodine 1 dr. to water 1 pt.—then, with the speculum in place, all abrasions treated from the cervix down to the vagina with equal parts of tinct. iodine and glycerine. The uterus was then washed out with the iodine solution and afterwards swabbed with the iodine and glycerine. The in-

trauterine douche was used but once afterwards (March 19th) as it gave pain and did not bring away anything abnormal. The uterus, however, was swabbed with the iodine and glycerine each time after the vagina had been cleansed. This application was thus thoroughly made by Dr. Cary, each time using the speculum and touching each membrane-covered spot three times in each twenty-four hours for five days (to March 22nd), when one application a day was made for three days more (to March 25th). A vaginal douche of a quart of the iodine solution was used by the nurse every three hours during the use of the iodine and glycerine mixture, and afterwards less frequently.

The other treatment ordered, which was continued during the activity of the disease, was turpentine enemata when indicated, internally the use of protonuclein gr. X every two hours, whisky 1 oz. every three hours, and liquid peptonoids with creosote 1 dr. every hour. Calomel was also ordered, gr. VI every four hours till effective, which acted well after the third dose, and this dosage was repeated twice again during the illness by Dr. Cary. Subcutaneous transfusion of normal salt solution was used once, March 21st, a pint under each breast, by Dr. Cary, assisted by Dr. Clippert.

Dr. Sill reported on the specimen on the evening of the same day, that it contained streptococci with a number of other germs of less importance. The use of antistreptococcic serum was then decided on, and the first dose of 10 c. c. given the next morning. The serum was used in this dose three times a day for six days, then twice a day for three days, and once a day for three days, when it was discontinued on the 29th of March, and given

again April 5th and 6th, one dose on each day of 10 c. c. being ordered. Thus, eighteen doses altogether were injected into this patient, a total of 180 c. c. No abscess occurred at the sites of the punctures, and very little local irritation was manifested.

On March 31st a rash appeared for a short time on legs, thighs and shoulders, which itched very greatly, and was doubtless an urticaria resulting from the use of the serum.

The behavior of the infected vulva and vagina under the local treatment was remarkably satisfactory, the swelling rapidly diminishing and the thick white pseudo-membrane covering the abrasions becoming smaller and thinner each day till March 25th, when the patches had wholly disappeared and the parts appeared healthy. The temperature remained between 100° and 101.4° until March 22nd, when it suddenly shot up to 103.6° , caused apparently by a streptococcic infection of the saline transfusion used the day before, as the points of puncture became highly inflamed and suppurated. The high temperature, however, subsided on the third day when it afterwards assumed a lower level than previous to the transfusion, notwithstanding the fact that pus was forming under the breasts, the first being evacuated on March 28th, and the second April 2nd. The pulse was of good quality and but little over 100 until March 20th, when it became very weak and intermittent accompanied by shortness of breath and thoracic distress. This proved to be the beginning of an endocarditis, which was clearly made out on March 22nd when a blister was applied to the chest, and infusion of digitalis 4 drs. with strychnia sulph. gr. 1/40 every two hours ordered.

This irregularity and weakness ceased at the end of four days, and a mitral murmur which had been very distinct at first was only just distinguishable and disappeared entirely by the 28th of March. The pulse from this time on sank to a lower level.

On March 29th the left leg began to be painful, and soon showed the usual signs of a septic phlebitis. The leg became more and more swollen, with occasional slight chills for some days, during which time guaiacol was applied to the skin, which was covered with cotton and bandages. On April 5th and 6th the two doses of serum were given before mentioned. At this time the nurse's report reads: "April 5th" (before giving serum), "patient is languid; leg very painful, has headache, pulse bounding, and 90, temperature $99\frac{1}{2}^{\circ}$."

"April 6th" (second day of serum), "a comfortable day."

"April 7th, leg much more easy and swelling greatly reduced. Had a good night."

"April 8th, sat up in chair for an hour quite comfortably. Had a good night." Since then she has constantly improved, and Dr. Cary reports the heart all right and the leg well, except for some soreness.

DEDUCTIONS.

The early bacteriologic diagnosis permitted a prompt outlining of the course of treatment and the positive knowledge of the variety of infection with its known tendencies as to persistence, toxicity, sequelae, etc., afforded solid ground to stand on in the persistency and aim of such treatment. The bacteriologic findings in the different varieties of puerperal infection are quite positive, while the clin-

ical diagnosis as to differentiation is usually impossible.

Soon after the recovery of the case here reported, the writer was called in consultation to two others, one of which had initiatory symptoms exactly like this one (tympanites, pseudomembrane, etc.), but the bacteriologic diagnosis was quite different, the infection being Kloebs-Leffler bacillus, and staphylococcus. How useless it would have been, and harmful to the patient, to have jumped at the conclusion that this was another streptococcic infection and treated it accordingly. As it was, the use of the antidiphtheritic serum for twenty-four hours with a few local treatments with iodine, cut the disease short.

The third case seen was clearly one of gonorrheal infection, as the history, infection of the child's eyes, purulent discharge without pseudomembrane, indicated the diagnosis, but the examination of a specimen of the discharge, sent to the Clinical Laboratory, made the diagnosis positive. Here, of course, the treatment was quite different from the other two. Internally, urotropin; locally, the frequent (every 8 hours) application of a solution of protargol (1%) to the endometrium and vagina. Ice over the uterus and Fallopian tubes as its use was indicated by pain and tenderness, resulted in the probable cure of this patient in about three weeks. An indurated mass is still present at the left of the uterus as the result of the invasion of the Fallopian tube, and it is possible that this may have to be removed at some future time.

As streptococcic puerperal infection usually has a fatal termination, it must be concluded that in this case some agent

was instrumental in preventing such an issue.

Locally the disease tends to pass rapidly upward from its first site of infection, causing a successive infection of the vagina, uterus, Fallopian tubes and peritoneum, and the lymph canals, which are so abundantly supplied to these parts, quickly carry the disease to the deeper structures, resulting frequently in abscess formation of formidable proportions, if death from peritonitis does not supervene before this can take place.

In this case the disease did not apparently pass beyond its first site of implantation in the vagina, the uterus at no time showing any signs of invasion, so that the local treatment must have been efficacious. Any less active local treatment than that which Dr. Cary gave this patient during the first six days, following the correct diagnosis would no doubt have resulted in the extension of the growth of the streptococcus into the uterus and Fallopian tubes. This is a part of the treatment that can not be delegated to the nurse, but must be attended to by the physician himself, even though it result in great personal sacrifice. If the disease can be headed off before it enters the uterus where its local treatment is so difficult, nine-tenths of the battle will be won.

The first local treatment is frequently followed by such a marked improvement that, to one inexperienced in the treatment of streptococcic infection, the danger will seem to have passed, but this is only a temporary improvement and is caused by the sudden shutting off of the supply of ptomaines that has been pouring into the system from the infected area, and if the local treatment is not followed up assiduously, and the ground gained thus held,

the local growth of the infection, which cannot possibly be killed by one or two treatments, will surely spread upwards.

In this case the systemic effect of the disease was manifested by those two very common sequelæ of streptococcic infection, viz.: Endocarditis and phlegmasia. Both attacks were very mild in character, the endocarditis coming on during the active use of the serum, was apparently modified by its use as it rapidly passed away, and was gone in a week's time, while the phlegmasia, beginning later, and several days after the use of the serum had been discontinued, was gaining considerable headway when two doses of the serum apparently cut it short. Thus it would seem that in this case the serum acted in a way to modify the action of the disease in the system, causing it to be less violent and destructive, holding its power at bay, as it were, until the phagocytes and eliminatives could gather together their forces and destroy and remove the dangerous element.

From an experience in the use of the serum in a number of cases similar to this one, I believe that this theory of the action of the serum is correct and that used freely, and with this idea in view, and not expecting sudden and active results as is obtained from the use of the anti-diphtheritic serum in diphtheria, the results will be satisfactory. Besides the local treatment, however, which is so necessary to stop the formation of the ptomaines which poison and overwhelm the system, and the serum to fortify the blood, internal medication should be used not only to induce active elimination but also to support the heart and nervous system and, when indicated, to prevent the putrefactive fermentation in the alimen-

tary tract which always supervenes upon the condition of intestinal paralysis that frequently obtains in these cases.

Digitalis, in the form of infusion, made with Squibb's powder, strychnia, alcohol in the form of brandy or whisky and used freely, calomel occasionally in purgative doses, creosote in liquid peptonoids, in frequent doses, are favorite remedies of the writer. The turpentine or glycerine enema is often indispensable to cause the torpid bowels to unload their distressing quantities of gas, and the turpentine stupe is often very grateful to the patient. The active use of the ice bag is indicated in cases attended by the high temperature and pain which occurs with invasion of the uterus and adnexa.

ORATION ON MEDICINE*

THE ROLE OF SUGGESTION IN THERAPEUTICS.

IRWIN H. NEFF,
Pontiac.

If you will recall to mind the efficacy of a bread pill, the prompt relief often obtained by a placebo, or the improvement resulting from the use of a nostrum, you will have a homely illustration of the benefit which can result from the employment of "suggestion." It is true that many physicians use such measures, when they believe that the disease or symptom is an imaginary condition. They fail to recognize that certain syndromes, and even pain itself, may have, in part, a psychical interpretation. The "suggestive treatment" is not a departure from ethical therapeutics; and it is not an innovation,

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as its proprieties were recognized many years ago. Unfortunately the technique of "suggestive therapeutics" and its limitations have only recently been appreciated.

In normal life we are constantly receiving a flow of stimuli from our sensory organs. There is an immediate desire to respond to any stimulus, namely, a "reaction to suggestion." This physiological reply is limited, owing to the intervention of certain mental attributes. The extent and character of the reply may be said to be due to the training of the individual and to his environment. In abnormal mental and physical conditions, we are often surprised to see how readily "suggestion" is obeyed, and if this exalted, receptivity of the patient is taken advantage of, one cannot help but acknowledge that "suggestion" is certainly a valuable adjunct to any method of treatment.

The benefit resulting from the use of Christian Science and its component and affiliated bodies is dependent on "suggestion," which is assisted, it is true, by judicious advertising. It cannot be questioned that much of the benefit obtained by hospital or sanitarium treatment is due, in part, to "suggestion," which is directly due to the environment of the patient. Likewise we cannot but acknowledge that symptomatic relief has followed the use of proprietary medicine. The relief so obtained is not due to any medicant in the nostrum, but is related to "suggestion."

The proficient and ethical physician, and the charlatan alike, use the "suggestive" treatment with this difference: While the former does it with extreme conservatism, the latter employs it indiscriminately, recognizing the fact that his laudatory methods are a means of ad-

vertising, which have a direct bearing on the success of the treatment. The reputable physician, possibly not understanding the limitations of the treatment, uses it conservatively and obtains comparatively little success. The charlatan being unrestricted in his methods, often strikes the keynote of "suggestive therapeutics." While we can with scientific satisfaction at least, pity the ignorance of the "quack," we cannot help but deplore the fact that the physician was not versed in an old, established principle, namely, the efficacy of the "suggestion" well applied.

Is there a physician present who has not envied the success of a colleague, who has successfully conquered a train of obscure symptoms of a "discarded patient?" The failure of the unsuccessful physician may not have been due to faulty diagnosis, but may have been dependent on his inability to recognize his patient's personality.

It is here an opportune time to correct the impression that "suggestion" is only effective when used in neurotic subjects or in persons of inferior intelligence. It is true that the enthusiasts of the various cures may have a well-defined and peculiar psychology. It is nevertheless equally true that we are all amenable to "suggestion" in some form. The character of the "suggestion" and its "modus operandi" can only be determined after individual study. Physicians are aware that in order to successfully combat the symptoms of many diseases, the treatment of such diseases does not depend on the treatment of the malady itself; but is in a large part due to the physician's ability to understand the temperament of the patient and his personality.

People thus cannot differentiate very well between, for instance, intercostal neuralgia and pleurisy, between heart commotion in a neurasthenic condition, and that of valvular heart disease; between the headache of a brain tumor, and that of eye-strain, etc. For this they must at first look to the practitioner, and as a rule, they are thus bound to believe implicitly what is told them. Later on they may come, and sometimes do come to distrust or to half accept what is told them by no matter whom, whether the diagnosis be correct or not. Again, even when the diagnosis is correct and thoroughly believed, the prognosis may be altogether more comprehensive and encouraging than the possibility of relief of the obvious condition may justify.

Finally when it comes to the treatment itself, there is disparity between promise and accomplishment, often irreconcilable. Physicians all know how persistent certain people are in their endeavors to get positive statements, especially when such are as absolutely impossible as unnecessary. But they do not always remember the certainty which sick people are apt to "read into" their most carefully uttered words; their own conceits, hopes and misgivings; and so get unto themselves a summary of facts and fiction, which may be as mischievous as misleading. These people think for the time being of but one thing, namely, that their own concerns are paramount to all else. With this they give tone to all that is told to them, and likewise to all that is not said. As a result they either accept the miracle on the one hand; or else take a long delight in whatever success in new sensations the practitioner may be able to offer them on the other. Moreover they do not forget

that they are sick; that a cure has been promised; or that it seems long delayed.

The number of cases of eye-strain, dyspepsia, kidney diseases, uterine troubles, etc., have at times found no relief from the correction of their difficulty or deformity; but have found relief, at least to their satisfaction, at the hands of some person using a form of "suggestive therapeutics;" and, why? simply because the real nature of the difficulty as affecting the whole patient, has been lost sight of in the intensity of the especial attention given exclusively to some particular part.

Unfortunately this psychology is common to many seeking medical relief; and unless the physician recognizes this condition and gives appropriate treatment by "suggestion," the results of any therapeutic measure may be discouraging.

The possibility of "suggestion" having any medical effect may be said to be dependent on the ability of the patient to receive suggestion; namely, his receptivity, on the personality of the physician; and on the environment of the patient and the methods used. Time does not permit me to emphasize the details of these principles.

"Suggestive therapeutics" should be thoroughly understood, studied assiduously, and put into practice in all diseases. As outlined above, this treatment is used unconsciously in almost all forms. Unfortunately its limitations are not sufficiently recognized, and the treatment has drifted into the hands of charlatans, where it has been of considerable benefit. There is no question but it is our duty to wring it from their hands. The progress which has been made during the past ten years to put it on a scientific basis, is encouraging. "Suggestive therapeutics"

should be recognized for its true value. It should be employed in every disease when indicated, and recognized as a legitimate therapeutic agent. Its limitations must be looked for in every case, and given proper recognizance.

SOME PRACTICAL CONSIDERATIONS ON THE TUMEFAC-TIONS OF THE CLIMAC-TERIC BREAST.*

THEODORE A. MCGRAW,
Detroit.

I was accustomed for many years to advise my students to operate at once in all cases of tumefactions of doubtful character occurring in the breasts of women over thirty years of age. I was led to give this advice by the melancholy experience, which every surgical specialist has to encounter, of large numbers of cancers, which were brought first to my notice when they had become hopelessly incurable. I found practitioners all over the state advising patients to postpone remedial measures in the early stages of mammary cancer, until the disease had advanced so far as to be obvious even to the lay mind. The reason of this was the difficulty of diagnosis in the early and curable stage of the disorder. The physician shrank from causing alarm in his patient's mind as long as he, himself, felt uncertain as to the character of the painless and obscure induration, hardly perceptible, perhaps, in the depth of a large breast and, while he was comforting his patient with false hopes and awaiting

events, the malignant growth scattered its seed far and wide over the adjacent area and through the lymphatic channels.

The impressions made upon the minds of practical surgeons by such neglected cases, are exceedingly painful. A woman comes for an opinion as to the character of a swelling which has caused her some anxiety. She hopes to learn from the surgeon, what she has, perhaps, been told again and again by her family physician, that there is no reason for alarm, and she is shocked beyond measure when she discovers not only that she has cancer but also that the time for its possible cure has passed forever by. Her invariable and urgent question—a question which is exceedingly difficult to parry—is whether anything could have been done for her relief if she had come six, or twelve, or eighteen months sooner, when she first consulted her doctor. The surgeon is then in a dilemma, for he wishes on the one hand to protect his colleague from blame, while on the other, he feels it his duty to make every woman in the land know that a lump in her breast has possibilities of danger which demand immediate action.

The consideration of such cases, of which I had very many, made it seem to me more humane and more rational to extirpate ruthlessly all tumorous breasts, than to suffer patients who might have cancer to drift into a hopeless doom. The occasional amputation of an organ which might have been saved did not seem to me to compare in evil with the failure to act when the danger to life urgently demanded operative measures. A further reason for the advice which I gave was the tendency of many innocent maladies to develop in time into malignant diseases, or, if not that, to offer a soil favorable to such

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growths. Scars and inflammatory indurations of long standing, syphilitic ulcers and cystic swellings all are found, in many cases, to precede or accompany the development of cancer.

With this experience as a guide, it did not appear unwise to extirpate all breasts thus affected and thus obviate a possible danger. I believe that this policy did work for good in very many cases and that women now living have owed their lives to it, and yet I have become convinced of late years that for certain reasons which I shall state that it ought to be materially modified. It is, in the first place, an opprobrium of our art if we sacrifice unnecessarily any organ, even though it has passed the period of its usefulness. A woman who has lost a breast always feels that she is deformed, nor will it take away from the bitterness of her reproach if told afterwards that the operation was not rendered necessary by the character of the disease—and yet if after a breast is amputated the subsequent examination proves the disease to have been benign, it is only just that the patient should receive the benefit of a knowledge which will relieve her from a constant apprehension and anxiety. I can testify from a long experience that the occurrence of benign swellings in the female breast, even in the climacteric period, is much more common than is usually supposed. Indeed, of late years the experience of my earlier professional life has been so reversed that whereas then I had to mourn over lives lost from delay, I am now more often obliged to dissent from the advice of physicians who have sent to me for operation inflammatory swellings which could be cured by pressure or massage, or cysts which would disappear after puncture.

This experience, though vastly more pleasant to the patient, has nevertheless a most disagreeable phase, inasmuch as the outcome must necessarily reflect on the skill of the attending physician.

I have thus many times been put in the awkward position of disagreeing with opinions which had been given in accordance with my own advice, and yet I could not sacrifice my patient and amputate a breast which could be saved, in order to be consistent with myself. Besides, I have become cognizant of another evil, which may follow, and has followed, upon the expression of a too unfavorable opinion in cases of doubtful diagnosis of mammary tumors.

The country is infested with a great number of cancer quacks, who plunder their victims while subjecting them to horrible and unnecessary tortures by the applications of caustic pastes. I feel warranted in asserting positively that no true cancer of the female breast was ever cured by this method of treatment. My experience in operating on such cases is very large and, as it is my custom to operate at the very earliest possible period, I know positively that the glands of the axilla are always involved at the time when the cancer first manifests itself as a perceptible abnormal change in the gland. I have never found an exception to this rule, although the glands may not become perceptible to the touch until the axillary space has been opened and laid bare. Now the destruction of these infected glands by caustic applications is impossible, as they lie close to the large blood vessels, which would be eroded by the caustic. In such an event the death of the patient from hemorrhage would be only a question of a little time. Even the most reck-

less of these charlatans do not dare to invade this territory with their applications. But, while they do not cure cancers of the breast, they do destroy many breasts containing innocent swellings, which pass among the laity as cancerous, and from these cases they gain a popular reputation.

I have seen many sad cases of the dreadful and unwarranted destruction of tissue for innocent swellings which could have been removed by a single incision.

One patient whom I have treated within a year—a girl of twenty-six—told me that she had had at the age of sixteen a “hard cancer” of the breast, which had been “cured” by one of these charlatans. She had come to me to be cured of the results of his operations. I found, on examination, that the whole breast had been destroyed, together with a wide area of integument, and that the pleural cavity had been opened. The lung had collapsed and a fistulous opening led into the still suppurating pleural cavity. Now hard cancers do not occur in girls of sixteen. She had doubtless had a fibrous tumor which could have been removed through a small incision, but she had faith yet in the miscreant who had destroyed her breast and lung and ruined her health.

Now, when we pronounce as cancerous, enlargements of an innocent nature, or when we lead our patients to believe them to be such by a too vigorous assertion of danger, we play into the hands of these quacks, for when breasts so affected are removed by caustics and the patients recover, the opinions of the regular physicians are quoted as proofs positive of the malignant nature of the tumors.

For these reasons it becomes incumbent on us all, family physicians as well as surgeons, to perfect ourselves in the diagnosis of affections of the female breasts. We should learn to distinguish, when possible, the benign from the malignant, in order to be able to counsel our patients correctly, neither permitting them to drift into an incurable condition from a disastrous delay nor resorting to measures of severity not warranted by the character of the disease. In studying the diagnosis of the malignant from the non-malignant swellings of the female breast, we may first note that enlargements of a benign or semi-benign character which are liable to be mistaken for cancer or sarcoma, are of two kinds: They may be true neoplasms, fibrous or fibro-cystic tumors, or adenomata or more rarely, vascular, fatty, cartilaginous or bony tumors, or they may be accidental swellings such as inflammations, gummy tumors and the like which may simulate true tumors. We may further note that these accidental swellings form the vast majority of all those which render diagnosis doubtful and obscure. The true tumors of benign character, which develop in the breast after the age of thirty, are comparatively few in number. Of those which are actually met with in practice in older women, the greater number, too, have begun their growth at an earlier age. Of the benign tumors which occur at any age in the mammary gland the great majority again are fibrous in character. After these come the fibro-cystic and the fibro-adenomata. True adenomata are rare, and the other tumors occasionally met with are so uncommon as to be of little account in this question.

The diagnosis of a fibrous tumor is usually easy. Its firmness, its circum-

scribed form, the absence of all secondary knots and all evidences of infection make its recognition feasible even before operation, and when cut into, its bulging, glistening surface is so different from the concave, dull hued and mottled look of the cut scirrhus that the microscope need rarely be used to decide upon its nature. The fibro-cystic and fibro-adenomata could be confounded with the cystic sarcoma and scirrhus, but differ from them nevertheless decidedly in their simpler and less variegated structure. In fact, as regards the diagnosis of one neoplasm of the mammary gland from another we may say in general that difficulty is experienced in distinguishing the benign from the malignant on microscopic examination only when the one is undergoing a degenerative change and is beginning to assume the characteristics of the other. The accidental enlargements, on the other hand, usually either cystic or inflammatory, are not only exceedingly common but are also sometimes most perplexing in their resemblance to scirrhus or sarcoma.

If I were to judge from my own experience I should say that cysts of one kind or another, not including cystic sarcoma or those arising from the disintegration of cancerous or other tumors, are the most common of all tumefactions of the breast.

Those arising during the child-bearing period, and sometimes afterwards, are often milky cysts coming from obstruction of the lacteal ducts. These obstructions may be caused either by imperfect formation of the ducts or by inflammatory changes. They present symptoms which differ according to their location and size, and may appear either as large, globular tumors or as small, illy defined and obscure swellings under the nipple or deep

in the breast structure. They contain milk, more or less altered in consistency. The exploring needle will reveal their contents either in the form of fluid milk or milk thickened to resemble pus or, finally, of a paste-like residuum. The microscope will show the milk globules and fat.

I have, at the present time, one under treatment, which will illustrate one form in which they are met with. A lady was sent to me for operation, on account of a doughy thickening under the nipple which was thought to be cancerous. It lay deep in the breast, and its feel was not unlike that of a moderately soft cancerous infiltration. On puncture it yielded a white paste, which was found to consist of milk globules without any admixture whatever of cellular elements. After evacuation of its contents all induration and abnormal swelling disappeared, but in a short time a reaccumulation took place of precisely the same character, the milk globules presenting themselves under the microscope with very little interglobular fluid, showing that the character of the secretion was not caused by its long continuance in the tissues. Should it collect again, I will make a free incision and may possibly remove the affected area.

The occurrence of fluctuation in these cysts will depend upon the more or less fluidity of their contents, and sometimes upon their location. When the contents are thick and pasty, the fluctuation is absent. I have never seen any tendency in these cysts towards malignant degenerations, but nevertheless think it best to subject them to operative measures when they do not yield to puncture, for they are, after all, only another phase of chronic irritation, and chronic irritations may lead to dangerous changes.

Much more common than the milky cysts are the so-called involution cysts which, in my experience, give rise more than any other form of tumefactions to diagnostic and prognostic errors. These cysts are formed by the accumulation in the acini and lacteal ducts, of a serous exudate, in which there occurs broken down epithelium from the lining membrane. Their ætiology is not altogether understood, and they probably arise from irritations of various origins. They differ somewhat in their gross characteristics, some having no wall but that of the lining membrane of the ducts, while others are surrounded by an inflammatory wall. For these reasons they react differently to puncture. When exploring needles are inserted into these cysts the greater number will collapse so completely that after the evacuation of their contents no abnormality can be detected by the closest examination. The seat of the collapsed cyst will then feel exactly like the rest of the breast. In a minority of cases there can be felt, after evacuation, a decided hardness or swelling. I meet with these cases usually in my office consultations. Women come in great alarm on account of one or more firm, small swellings deep in the breast. As a rule, they feel much more like solid than like cystic tumors, and are often irregular in outline. The difficulty of diagnosis may be increased by a location deep in the gland and by the occurrence of several cysts in one or both organs. When such a case comes to me I invariably insert an exploring needle, when a cyst, if present, will reveal itself by the discharge of a dark colored fluid.

Will any one tell me why physicians so rarely use an exploring needle? In just this class of cases I should feel lost with-

out the aid which I get from this little instrument, and yet from the great numbers which come to me with an erroneous diagnosis of cancer, I have been forced to the conclusion that it is practically unknown to a large number of practitioners.

The result of the puncture will determine the diagnosis and indicate the treatment. When all tumefaction disappears with the evacuation of the cyst's contents, we may reassure our patients positively as to a favorable outcome for, with rare exceptions, it is the rule that the trouble will entirely disappear with a few punctures of the needle. I have, however, seen one or two cases in which cysts with this history have been the forerunners of cancer.

A woman once came to me with large cysts in both breasts, which so entirely collapsed on puncture that I could feel, after the evacuation of the fluid, no induration whatever. The glands presented, then, an absolutely normal appearance. She was directed to call again and keep herself under observation, but I did not see her again for more than two years and when I then had the opportunity of examining her, both organs were hopelessly involved in scirrhus growth.

Sometimes an inflammatory tumor of chronic character will develop in the location of a cured cyst. I operated on such a case this year. A lady who had had a small uterine fibroid came to me six years ago with a cyst of the left breast. It was cured by puncture. On presenting herself again last winter I found a cyst of the right breast, which I cured by puncture, and a hard, well defined tumor of the left breast at the place where she had previously had a cyst. This tumor had been several months in developing, but, in the absence of all symptoms of neighborhood

infection, such as adherence of the overlying skin, retraction of nipple, etc., was diagnosed as inflammatory. As an incision into its substance confirmed this view, I contented myself with removing the affected lobe. A subsequent pathological examination at the Detroit Clinical Laboratory established the correctness of the diagnosis.

When the evacuation of the cyst contents does not cause an entire disappearance of the swelling, when it leaves behind a perceptible thickening or an induration, we have to deal with pathological conditions which will cause more anxiety and trouble. The remaining tumefaction may be due either to an inflammation of the wall of the duct or of the outlying connective tissue, or to the presence of a neoplasm, which complicates, if it has not actually caused the development of the cyst. A microscopical examination of the exuded fluid may or may not throw light on the nature of the malady. If inflammatory, it may possibly subside under massage and pressure; if neoplastic, it demands imperatively operative relief. I do not think that the surgeon should delay action very long in these cases if treatment produces no benefit.

It is then a proper case for exploratory incision, thorough examination and radical measures. I had a case a year or two ago with Dr. Campau, of Harrow, Ontario, which illustrates this matter and which caused me a good deal of chagrin. I punctured a cyst in the breast of one of his patients and evacuated a thin, dark colored serum. There remained then a very small, indurated spot, hardly bigger than a small bean. I gave a good prognosis, but it was only a few months after that she came to me with a rapidly grow-

ing cancer and an evident glandular infection which necessitated a very extensive operation. It is possible that the growth in this case preceded the exudation of fluid in the duct, and by producing an irritation, caused it. However that may be, I have learned, by many cases, that cysts in which tumefaction persists after puncture, demand a watchful attention and prompt treatment.

I hardly need to call attention in this connection to those cavities in morbid growths which result from the breaking down of cancerous tissue. The contents of such cavities resemble those of certain abscesses but under the microscope are found to consist of cells more or less degenerated, granular matter, fat globules and pus. They should never deceive the practitioner nor render him doubtful of their true nature, and yet I have seen them, more than once, mistaken for phlegmonous abscesses.

If puncture and the microscopic examination of exuded fluids leave the surgeon in doubt as to the character of any given tumefaction, the question arises whether he should then proceed without further ado to treat the breast as cancerous and to thoroughly remove it, together with the surrounding tissues and glands. For many years I acted on this principle as the only one which could promise good practical results, for reasons which I have already stated. I have found it best of late years to alter my practice, by extending the examination still further by means of an exploratory incision. A cut made deep and wide into the tumor will often relieve doubts by its macroscopic semblance alone, exposing cavities which may have escaped the exploring needle, and showing the gross outlines of structure in the more

solid tissues. If we see the cut surface of a hard tumor of uniform color and consistency and of bulging convex form and strictly defined from the surrounding parts, we might not be able to diagnose it as a fibroid or adenoma or inflammatory mass, but we should feel certain that it was not a scirrhus. If further, we could find no evidences of infection anywhere, we should conclude that it was innocent, and content ourselves with excising the affected lobe, sparing the rest of the gland, the overlying skin and underlying fascia and muscle. If, on the contrary, we discovered on incising a doubtful swelling, a surface concave and retracted, with mottled color and a vague outline melting insensibly into neighboring tissues, if it is attached to the adjoining structures and draws them into itself, and if secondary nodules or enlarged glands indicate a process of infection, we should not hesitate to sacrifice breast, skin, fascia, muscles and glands far and wide, with the hope of saving life.

In hospital practice many surgeons delay the completion of an operation in order to have a rapid examination of frozen sections of portions of the tumor which they have excised for the purpose. I have not myself much faith in the efficacy of this kind of investigation, for, while the method may yield definite results in cases which give the surgeon little doubt, it fails to give us certain information in those which are most perplexing. We rarely are at a loss, after cutting into a tumor, to recognize a typical fibroid or a scirrhus. The cases of doubt are those in which malignant elements are thought to be growing among others of a benign nature, as when a fibroid or adenoma or inflammatory product have formed the nu-

cleus for the development of cancer. A casual hasty examination of segments of such a growth will rarely yield the desired information, though a careful investigation of sections cut from many places in the extirpated organ might throw valuable light on the process.

When in operating we delay the completion of the procedure while awaiting the result of microscopic examination, we should not forget that the reason of so doing is to save as much tissue as may be possible, if the examination should warrant less radical procedures than thorough extirpation. This caution might seem unnecessary, but it was only last summer that I saw an operation in one of the largest eastern hospitals in which this principle seemed to have been lost sight of. A woman was brought into the clinic with some kind of a lump in the breast. The organ was small, and covered so tightly with its integument that the excision of any great portion of the skin would mean either healing by granulation or an extensive plastic operation. The surgeon made at once an oval incision and removed the gland, together with its covering of skin, and then sent the patient out of the room to wait for the microscopic examination before having the operation finished. I waited in the clinic a full half hour but did not see her again nor hear the result. Now if the tumor was benign, all of the integument, at least, should have been saved; if malignant, the underlying muscle, fascia and lymphatic glands should have been removed; if of doubtful nature, as I assumed, the integuments should not have been removed until that doubt had been settled by the microscopic examination, as long as the surgeon relied upon that as a criterion on which to

base his action. It was evident to me that the operator was following a routine and had lost all idea of the purpose of the pathological examination.

Certain inflammatory tumors can, with difficulty, be distinguished from scirrhus by microscopic examination. In fact, their clinical symptoms are of more value in diagnosis than the minute structure. They are all marked by a uniform caking of the whole breast, so that the gland has a feel of even hardness. The skin, however, is not adherent, nor the nipple retracted, nor the axillary glands swollen, but the new inflammatory tissue surrounding the ducts and acini will strangle them, leaving here and there islands of epithelial cells. Sometimes a portion only of the mammary gland is involved, and the diagnosis may become difficult.

In conclusion I will say that no breast ought to be adjudged cancerous without the most thorough examination by all possible methods, but when the surgeon, using his best judgment, after full investigation, has come to the conclusion that he has to deal with a tumor of dangerous tendencies, he should then operate on it so thoroughly as to destroy, if possible, every secondary growth, whether in fascia or muscle, skin or gland. He should assume that the skin above it, the fascia and muscle below and all of the neighboring lymphatic vessels and glands are already infected and should make the operation wide enough and deep enough to take in all of the suspected territory.

We can not, as yet, say that we can in this way cure all cases of the disease, nor even a majority of them, but we may truthfully claim to have had a success in a very large minority—which our predecessors in surgery never achieved.

I have now many patients who are living, without recurrences, after three, five and ten years, and feel justified therefore, in spite of many discouraging failures, in recommending the operation as the only treatment which, as yet, has shown a fair measure of success.

Above all things, we should try to keep our patients out of the hands of the charlatans, who inflict upon them indescribable tortures which, in their very nature, cannot possibly be of service.

DISCUSSION.

J. K. GAILEY, Detroit: I do not know that I have anything to discuss in this matter, because it seems to be very clear and concise in every way, and coincides with my opinion. My experience with cysts of the breasts has not been very extensive, but I have found in all cases that exploration and care and watchful observation is the proper thing; and a great many conditions can be bettered, and the future of the patient very much improved. I have nothing more to say than that I approve of everything that has been said in the paper. I cannot discuss it in any way except to approve of it. Wherever growths prove to be malignant they should be removed very thoroughly. I have removed tumors that have been malignant, and with no recurrence as far as I have ever heard. In others they have been too far advanced before operating, delayed too long, perhaps from some cause as mentioned in the doctor's paper. I know wherever tumors are operated on early the advantages are great, and the liability of their recurrence is very rare. I have nothing more to say except that I appreciate very much this matter of bringing out the exploring method. I myself must acknowledge I have not used an exploring needle as much as I should, and I think that will be the experience of a great many physicians. The exploring needle is a very proper thing to rely upon in a great many instances, and I think that outside of tumors of the breast the exploring needle should be used a great deal more than it is.

H. R. VARNEY, Detroit: I will rise to thank the doctor for the privilege of hearing this paper, and to raise a note of warning. I am

a dermatologist, and one who has had some experience with the X-rays in some of the doctor's cases, all of which have been recurrent cases; but I rise, as I say, to give a note of warning in these cases that are coming to us as specialists in this line. I do not think in my experience I have allowed the ray to substitute in any particular for the knife; these cases have been turned to the surgeon. Cases were coming to us all the time, that will submit to the ray, but will not submit to the knife, yet when we lead them to realize that nothing can be hoped for from the ray when in the malignant condition, they are very easily led to see the need to remove entirely. Therefore, I rise to offer a word of warning concerning these cases, but I believe that application of the ray after removal, with recurrence, is a treatment worth trying.

ORVILLE W. OWEN, Detroit: In regard to the use of the X-ray in nodules of a cancerous formation, we are in our infancy, but I believe that the time has come when the knife should never be used until the X-ray has been thoroughly and completely tried. The surgeons will fight on that proposition.

The surgeon will not allow us to use the X-ray at the earlier stages of the disease. I use it correctly when I say the earlier stages of the case. It seems too new and startling a proposition—compared with what we have had in the past—that we never should use the knife until the patient has had a thorough X-ray treatment in every case. I have myself had occasion to use the X-ray, and have cured cases where it seemed almost impossible to effect any change. Now, one thing you ought to impress upon your patients, when you send them to try the X-ray, and that is that it is a long and slow and tedious proceeding; that there is nothing hasty in it; and that you must use the X-ray for a long time before you get any appreciable benefit from it. The knife, of course, is quick in action, but the results are not any better, nor as good as the X-ray. But the point we find mostly to contend with is that the patients are afraid to stay, and will not stay to take their treatment as they ought to, and take it for a long time. There is the whole question of using the X-ray to-day in any case outside of the taking of pictures,—is the long continued use of the X-ray; not a high current, a high frequency too, and to a burning, but a long, slow, continued application of a mild current for a long period of time. It is not the burn that cures. It is the

absorption of something, we do not know what it is,—the X-ray, the unknown quantity, and there is not a man in the world that can tell you what it is that does it. About the high frequency coil and the low frequency, when you come to take the study and watch the symptoms you will find that you will get better results with the low tube and long application and without the burn. And you will find also that your cancer or your lupus or other malignant disease will disappear under that, but if you expect to start out, and have your patient come for four or five treatments and expect to do the thing good, you cannot do it. But what I would like to most impress upon you is to tell your patients when they come to the X-ray, they must expect to stay a long, long time, and that for a long time they will see no improvement; for a long time there will be absolutely no change of the morbid growth in any way, shape or form, but all of a sudden it will commence to disappear, and it will disappear like magic when it does.

A. L. SEELEY, Mayville: I will give you an account of the method I have been pursuing for the past ten years. When I have made the diagnosis, and have come to the conclusion that a cancer of the breast exists, which diagnosis I make in the method illustrated by Dr. McGraw; when I find an enlargement of the glands and an indurated mass; when I cut in the breast and find a tumor, I have followed this method: I make a thorough dissection, amputate the breast; make a thorough dissection of the glands, and then do not close the wound, but instead place upon the wound a paste known as Bogart's Paste, the principal part of which is chloride of zinc, with a small addition of arsenious acid. I have left that paste upon the open wound for 24 hours, and am always surprised what little pain and discomfort is produced by the paste. I do not think I have given more than quarter grain doses of morphine to keep the patient quiet, and I know in some cases that has been superfluous. I never give more than three or four doses. It makes an ugly wound. But it heals. In one case it was four inches one way and nine inches the other, and it seemed almost impossible for that wound to heal with so little skin covering, but it did so. The patient was 65 years old. There was a recurrence in this case, the only case I have had a recurrence in. The recurrence came about the third year. The recurrence was not in the cicatrix, it was in the other breast. You will find by applying the paste

you will get just what you get in the X-ray treatment.

I disagree a little with Dr. Owen, who says we do not get the result from the burn. I think that is where we get the result. I think the burning with the X-ray produces the result we get. We bring new blood to the part, and in some way we get the result, and I think we do not get a good result unless we do get the burn. Taking the plaster off you will find that there are places as far around as the spine, even on the other breast that sloughs off and comes out. You will have sloughs as clean cut as if cut out. I have had recurrences in the wound before the wound had healed—in one case. That is, the cancer commenced to grow again, when I have had to apply a small plaster the second time. But in some of the cases there has been no recurrence even after years. I certainly shall continue that method of treatment until I find something better. Of course, we all know that we get good results with the use of arsenious paste in epithelioma. And we get less scarring, and a better looking result than we do from the knife, in a good many cases. The wound heals slower, more chance for granulation tissue to follow in the wound.

SCHUYLER C. GRAVES, Grand Rapids: This matter of tumors of the breast has been very interesting to me, and I want to congratulate Dr. McGraw upon the stand he has taken. I think Dr. McGraw is a step nearer the ideal surgeon to-day than he was before he read this paper. It is surely the province of the surgeon to mutilate people as little as possible. This promiscuous amputation of the breast for everything should be tabooed. He didn't mention the fact, however, of the X-ray treatment of cancer, and I would like to speak a moment upon that subject. I will relate a case which will bring the matter to your attention more satisfactorily than in any other way. I had occasion to remove a carcinomatous breast a year ago this summer. The breast was removed, but in the course of six months local recurrence took place. Three or four nodules sprang up in the neighborhood of the scar, and commenced to grow with considerable rapidity. This family lived at Pentwater. I knew this fact, and I told the wife that the nodules had better be removed. She went home, however, and I saw nothing more of her for some time. I finally was telegraphed to come and see her husband and while there she showed me her scar. Those nodules had all disappeared. She had gone to Dr. Dodge, at Big Rapids, and he

had applied this treatment of the X-ray. Now, in that case, the local recurrence had certainly been cured, or practically cured. Since then I have learned that the nodules had all disappeared, so that in this case, at least, a cure had been effected. That speaks volumes in favor of the X-ray treatment.

F. W. ROBBINS, Detroit: There are two points I wish to mention in the matter of diagnosis, first that of a growth I have seen in one or two cases at the junction of the areola and white skin around the nipple. A hard, thickened induration was removed, and upon recurrence was again removed, and again recurred, and it looked very much like epithelioma. I just mention it so that we can keep in mind the fact that it is possible for a keloid (?) to have its origin in this vicinity that will simulate so closely epithelioma, that one has to be very careful in diagnosis for fear of amputating the breast for what is supposed to be epithelioma, when keloid exists. Another thing: I am impressed with the fact that trauma has a decided relationship to the formation and production or growth of carcinoma of the breast. In one or two cases, I have seen comparatively young people, below the age of thirty, where injury or contusion has been produced upon the breast and within two or three months carcinoma developed. It seems to me that trauma, in connection with any growth in the breast even in a person under thirty years, should lead one to consider very closely the possibility of malignancy. I say this very feelingly, because I lost a patient some years ago by not removing thoroughly a carcinoma of the breast, because I did not believe it possible it was carcinoma of the breast, but it was. She died from it later, as the result of being struck in the breast by a thill or the shaft of a buggy when alighting from a street car. It was followed within two or three months by growths which proved to be carcinoma.

A. N. COLLINS, Detroit: For my part I can agree most fully with Dr. McGraw, in his conclusion in the handling of these malignant and non-malignant growths, which I believe is a great advance over the idea that all breasts ought to be removed entirely that contain lumps. But here we are confronted to-day with an indecision, where some advocate a complete removal of the breast when we determine it is malignant, and others advocate the submission of them to the X-ray. That situation of uncertainty is very unfortunate for us and very unfortunate also for the patient.

I would like to ask Dr. Owen how long he considers a fair trial of the X-ray to cure, before it is subjected to the knife. Before he answers that question I would like to remind him and others that after one year, as a rule, the chances of elimination of these growths by any means is very slim indeed. Oftentimes these growths have run from six to nine months before the surgeon's attention is called to them. Then, are we to try the X-ray another six or nine months? Then the golden moment is past and our patient is bound to die. I firmly believe with Dr. McGraw that just so soon as we determine that we have a malignant growth of the breast the X-ray has not demonstrated itself to that point where we are justified in delaying the most complete ablation of all the tissues wherein those seeds could be retained. Now, if Dr. Owen will kindly explain how long he deems a proper time for the X-ray to be tested, perhaps we can get to a point where when that question confronts us, we will know what to do.

O. W. OWEN, Detroit: Perhaps I can answer that best by reciting a case. On the 15th day of last May, cancer of the breast was diagnosed. The tumor extended from the median line of the sternum, and all of the glands were enlarged. It was diagnosed as cancer by four surgeons of this city. I put her under the X-ray treatment daily. At the end of the fifth week she came to me one day in the most intense pain, almost screaming. She said she would not allow me to give her but two days more of treatment. I had no burn. I do not want burns, ever, in the removal of cancer of the breast. I gave her a very long treatment with the static tube. She went home. She felt something give way under her arm, and she came right up to me. The glands under the arm had been reduced in size one-half. I discharged her on the 15th day of September after two surgeons had examined her, absolutely cured. Her affected breast was as flaccid as the other side.

T. A. MCGRAW, Detroit: I will say this about the X-ray: I regard it as yet entirely experimental. I have sent a good many cases to some experts here, and I am sorry to say that I have not yet had one that was in any way cured. When they demonstrate it on some of these recurrent cases to my satisfaction I shall be glad to say a word in favor of it.

MODIFIED MILK FOR THE BABIES OF DETROIT.*

COLLINS H. JOHNSTON,
Grand Rapids.

The question has so often been asked how Grand Rapids came to possess a Walker-Gordon milk laboratory that I thought a brief account of its origin would be of interest to the section and especially to the members from Detroit, many of whom I know have long wished for a similar laboratory in this city.

I began to teach mothers in Grand Rapids how to modify milk at home for their babies in 1894, and since that time have rarely, if ever, prescribed any other form of food for healthy artificially fed infants before their tenth month. With the exercise of great care and considerable labor, fairly good results may often thus be obtained; but there are many obstacles in the way of perfect success with the home modification of cows' milk. In the first place, it is difficult to obtain a fresh, clean milk. Many, perhaps more than two-thirds, of the dairymen furnish milk which contains from five hundred thousand to several millions of bacteria per cubic centimeter, and which is rich in deposits of filth when allowed to stand a few hours. Much of the milk sold does not necessarily directly cause disease in infants, but is probably responsible for a good deal of colic and indigestion.

Another objection to home modification is the uncertainty of the strength of the cream used. The amount of fat

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obtained by setting milk in pans for a certain number of hours for the raising of cream by gravity is subject to considerable variation, and there is also no uniformity in the cream offered for sale by most of the dealers. Rotch says that on four successive days he ordered of a reputable dairyman in New York an unvarying cream for home modification of milk for a sick infant. This cream he had tested each day with the result of finding a variation in the fat percentage of from ten to twenty-eight per cent., which, of course, would preclude any possibility of obtaining an unvarying amount of fat in the food given to the patient. Freeman has also told us that when milk is set the great majority of the bacteria rises with the cream, leaving the separated milk comparatively free. Even when a good milk and cream of known richness is obtained, the preparation of the food requires such an amount of time and attention to details that many mothers are unable to make it.

In the spring of 1897 I succeeded in interesting Mr. Ira O. Johnson, one of the leading dairymen of our city, in the subject of modified milk, and he enthusiastically entered upon a study of its preparation as described in Rotch's and Holt's text books. Mr. Johnson had for several years made a careful study of modern methods of handling milk, and but few, if any, changes in the conduct of his business were necessary to enable him to produce a high-grade of clean milk. The details of its modification for the percentage feeding of infants were soon mastered by him, and for two and one-half years accurately compounded milk of as good a quality as could be obtained anywhere was dispensed on physicians' prescriptions to the infants of Grand Rapids

and vicinity. Several of my patients, however, who spent their summers at the seashore and obtained milk from the Boston and New York laboratories conversed with the laboratory officials on the subject. The latter were, of course, surprised to learn that modified milk was being dispensed in Grand Rapids and naturally were inclined to doubt its reliability. The question was frequently asked me, therefore, was our product in every respect similar to that of the Walker-Gordon laboratories. The situation was a most serious one for me to face, for if any of the infants to whom our milk was given were found to have suffered from mal-nutrition or lack of development as a result of improperly modified milk the consequences might have been most disastrous. It was occasionally noticed, also, that a sediment was found in our milk which was never present in that of the Walker-Gordon laboratories. This we afterwards learned was due to the fact that the sugar was added in bulk after the milk was modified and a small portion frequently precipitated, whereas in the Walker-Gordon laboratories the sugar is first dissolved in water, thereby securing a more perfect solution. I also feared that some consideration might be paid to the mineral constituents of cows' milk during its modification by the Walker-Gordon people which was not spoken of in the literature, and that in this respect our product might be at fault, although both Holt and Rotch assured me that as far as they knew such was not the case. Mr. Johnson also was of the opinion that he did not have a legal right to use the words, "Modified milk," upon his store front and in advertising the products of his laboratory.

After some correspondence with the

Boston laboratory Mr. Johnson therefore went to Boston in the fall of 1899 for a couple of weeks, and after demonstrating by rigid examination that he was in every respect qualified for the work, made arrangements to represent the Walker-Gordon people in Western Michigan. In the winter of 1900 he took an eight weeks' course in bacteriology with Professor Marshall at the Agricultural College in Lansing, and it is safe to say that there are few milk laboratories in the country better equipped for doing good work than the one in Grand Rapids.

The methods of producing and handling the milk now are essentially the same as used in 1897. The herd consists of about sixty-five cows which are tested with tuberculin once or twice a year. Their diet is composed of wheat bran, corn, oats, ensilage, hay and grass, which is quite uniform throughout the year, and as fresh cows are brought in as regularly as possible, the milk has a constancy of composition not otherwise obtained. The cows are groomed each day, and just before milking their udders are washed off thoroughly with clean, warm water and wiped with a dry, clean towel. The hands of the milker are clean, and he wears a suit of clothes that are used only when milking. The milk pails, bottles and every utensil with which the milk comes in contact are washed with warm water and sterilized in steam for forty minutes. When drawn, the milk is immediately carried to the milk room and at once strained, aerated and cooled down to between 35 and 39 degrees Fahrenheit. For this purpose artificial refrigeration is necessary. There is no development whatever of the bacillus lacticus, which is the principal germ causing sour milk, at 39

degrees Fahrenheit, whereas the lowest temperature that can be obtained in an ordinary refrigerator is 40 to 45 degrees.

The milk designed for modification is then passed through a Stockholm cream separator, making 6,800 revolutions a minute. This serves three purposes: it yields a cream of almost constant percentage of fat; it removes all dirt that may have gained access to the milk from unavoidable causes, and it gives a clean, skimmed milk practically free from fat. Another advantage of the separator is that it furnishes a perfectly fresh cream instead of one twelve to twenty-four hours old, as is obtained in the common gravity process. In the feeding of infants cream more than twelve hours old should never be employed. No better idea of the rigid cleanliness with which this milk is handled can be had than by observing the small amount of extraneous matter found in the bowl of the separator after the milk of twenty-five or thirty cows has passed through it, and then observing the amount of filth after the separation of the same quantity of milk from the ordinary dairyman, in which I have found hair, manure, pieces of insects, earth, thread, blood, pus and bacteria.

Two qualities of milk are sold, one for eight cents a quart and the other for twelve. The eight cent milk is from a herd of fifty cows, many of which are Jerseys, and frequently runs from 4.50 to 5 per cent. fat. It is not put through the separator. The twelve cent milk is obtained from a herd of fifteen native cows, good, healthy, common animals, principally Durhams and Holsteins. Jerseys are of too nervous a temperament and too easily excited, their milk supply thereby becoming too frequently dis-

turbed, to be used for infant feeding. Inasmuch as the greater number of the germs contained in the milk of a healthy cow are those which work up the excretory ducts from the outside of the teat, the first four ounces of milk from each quarter of the udder are rejected, and experience shows that most if not all of the germs are thereby washed out. The remainder of the milk drawn contains practically no bacteria whatever. Professor Marshall drew from thirty different quarters of cows' udders by means of sterile glass tubes, after milking out a little of the fore-milk, thirty different samples, thirteen of which at the end of six months, placed at the temperature of the living room, had not undergone any appreciable change. Mr. Johnson has several times shipped samples of this milk, which he calls his "nursery milk," to New York by express, and it has returned to the Bacteriological Laboratory of the Agricultural College at Lansing perfectly sweet. It is sold for twelve cents a quart. This is also the milk used for modification.

Of course it is impossible to prevent some contamination of milk in transporting it to the consumer, so that some bacteria are found when it is delivered. That this contamination is reduced to a minimum is evident from the following analyses which were made in the bacteriological laboratory of the State Agricultural College. The table gives the germ contents of the various samples studied.

	Nursery milk.	Eight-cent milk.	Milk drawn under ordi- nary condi- tions.
	No. of Bac- teria per cc.	No. of Bac- teria per cc.	No. of Bac- teria per cc.
Sample I.	1,180	2,160	30,100
Sample II.	240	960	1,516,900
Sample III.	240	1,680	1,225,000
Sample IV.	320	480	474,250
Sample V.	400	640	1,260,000
Sample VI.	400	1,280	210,000
Sample VII.	320	1,760	
Sample VIII.	320	4,140	
Sample IX.	120	32,200	

The specimens in columns one and two were shipped from Grand Rapids to Lansing in little refrigerators at a temperature of 50 to 60 degrees, and were twenty-four hours old when examined. Marshall has found that the ratio of increase of the bacteria in milk kept at a temperature of 75 to 80 degrees Fahrenheit is from fifty to one hundred times greater than with milk kept at a temperature of 60 degrees, so that it is fair to presume that the bacteria in these samples were many times less in number when the milk was fresh.

There are now fourteen Walker-Gordon laboratories in the United States, three in Canada and one in London, England. Six of those in the United States are operated by the Walker-Gordon company; the others are licensed. The Grand Rapids laboratory belongs to the latter class and pays to the Walker-Gordon company a royalty of five cents per day for each child supplied with modified milk. The laboratory charges five cents per bottle for the milk with a minimum charge of twenty-five cents per day. Where six, eight or ten feedings are ordered I frequently direct that the milk be delivered in five bottles so that the cost is but 25 cents per day, instead of 30, 40 or 50 cents. Modified milk is therefore a somewhat more expensive dietary for infants than patent foods, but I frequently tell my patients that it costs much less than doctor's bills. One great advantage of the laboratory method is that it gives the physician much better control of an infant than when the food is prepared at home, no matter what its composition. One of the chief causes of sickness among babies is over-feeding, causing all sorts of gastric and intestinal troubles. Colic and disturbances of the digestive tract do not

often come from teething, but usually from too much food or too frequent feeding; and when I now direct a mother to give her infant seven feedings of four ounces each, I am quite sure that the baby will not be fed eight or nine times a day, or given four and one-half or five ounces at a meal, for the laboratory will not under any conditions change the milk order without instructions from the physician.

It is quite impossible in the time at my disposal to go very deeply into the theory of modified milk or the percentage feeding of infants. I believe, however, that no physician will resort to any other method of feeding healthy babies after once becoming accustomed to its use. There is probably no one here who has not already modified cow's milk many times in order to get rid of the large, tough curds which give rise to so much digestive disturbance in artificially-fed babies. Cow's milk contains about three times as much proteids as human milk. The proteids are of two kinds: lactalbumen, which is soluble, noncoagulable, and easily digested, and caseinogen, which is easily coagulated and which makes undiluted cow's milk so difficult of digestion for infants. The coagulable caseinogen comprises only one-third of the total proteids contained in mother's milk, but forms five-sixths of the proteids of cow's milk, so that the latter contains about seven times as much of this objectionable coagulating casein as human milk. The simplest plan of trying to render cow's milk suitable for infants is to dilute it with water. This procedure renders the curd less dense; but it also reduces the amount of fat and sugar below that required for the infant's proper de-

velopment. A certain amount of sugar or carbo-hydrate is necessary for nutrition and also for the production of heat. Fats are necessary for cellular growth and without a proper amount in its food the infant's development is retarded. So that it becomes necessary to add cream and sugar to the diluted cow's milk to make it approximate mother's milk in composition. As cow's milk is also relatively more acid than human milk, an alkali must also be added to it. For many years physicians have made use of mixtures of milk, cream, sugar, water and lime water and have designated the number of ounces of each to be used to secure a food corresponding to mother's milk, but on account of the uncertain strength of some of the constituents the composition of such mixtures is very variable.

Dr. Rotch has taught the profession that a much more constant product can be obtained if we specify the per cent. of fat, sugar, and casein we desire, and it is for the purpose of providing a place where these modifications of cow's milk may be made with scientific precision and our patients regularly supplied with a perfectly clean food, that the Walker-Gordon milk laboratories were established.

Experience has also shown that no one formula is suitable for an infant at all ages or for all infants at any one age. In the early weeks of life, in conditions of ill health, lowered vitality, imperfect development, and so forth, a much weaker food must be used than later. When milk does disagree the ingredient causing the trouble may be in one case the fat, in another the casein, and in another the carbo-hydrate. A great advantage of the laboratory is that in all such cases the food can be easily and accurately

adapted to the infant's digestive capacity.

Many physicians believe that decoctions of wheat, oats, barley, rice and so forth are useful additions to cow's milk for the purpose of attenuating the casein and rendering the milk more digestible. This is no doubt sometimes the case in infants whose digestive powers are below normal, and such diluents are used at the laboratory instead of water when a physician so directs. Some also believe that the fat of cow's milk is altered in some unknown way in passing through the centrifuge. In filling the prescriptions of such physicians gravity cream is used if requested.

Rotch says: "It is well that this latter statement should be noted, as physicians are so apt to think that only separated milk and cream are used at the laboratories and that the food is always sterilized or is always made alkaline with lime water. This is not so, and it should be thoroughly understood that the laboratories are ready to provide whatever a physician orders and in whatever way he orders, and that they are not allowed to do anything else, either to prescribe, to change the prescription or to sell a modified milk preparation without a physician's prescription—that is, the laboratory is merely an instrument in the hands of the physician and is in no way responsible for the results obtained from the feeding except so far as freshness of material and exactness of combination are concerned."

SOME CONSIDERATIONS UPON INFANT FEEDING.*

ALEXANDER MACKENZIE CAMPBELL,
Grand Rapids.

*Read before the Section on General Medicine at the Annual Meeting of the Michigan State Medical Society, June 12th, 1903, and approved for publication by the Publication Committee of the Council.

For the practitioner of general medicine, there is no more reasonable and necessary subject for consideration than that of infant feeding. When we reflect upon the fact that about 25 per cent. of all deaths occur among children under one year of age, that in our own state alone an infant dies on an average of nearly every hour, and that a high percentage of this mortality is the result of improper food, it makes us realize that we have before us a problem, the solution of which is momentous and is either difficult or neglected.

The field in this department of preventive medicine is large, for it is estimated that 75 per cent. of the children in the well-to-do homes have to be artificially fed. The physician can perform no nobler work than that of compensating the misfortune that obtains when a child is unable to receive nourishment from, and thrive upon the human breast. The feeding of infants is a task, the results of which affect every decade of life, every stratum of society, every avenue of human endeavor, and are transmitted through the generations.

It is perhaps unnecessary to state that the profession is agreed that cows' milk, modified in some way, is the preparation upon which we must depend to nourish this army of little orphans who, in a few years, ought to become foremost in the ranks of our body politic. But the great obstacle that meets us in every turn of the road is, how to obtain pure milk, without which we can make no headway whatever. Pure milk to the pædiatrician to-day means absolutely more than it did a few years ago, just as clean hands to the surgeon means more than it did in the time, when a simple wash with soap

and water, completed his toilet preparatory to an operation. And if in the scientific light of the 20th century, the surgeon were to perform, for instance, a gastro-enterostomy, without taking every precaution against infecting his patient, he would be very justly criticized by and ostracized from his professional colleagues. But every hour of the day is the general practitioner infecting the infantile gastro-intestinal tract with impure milk, and little or no complaint is ever entertained or expressed. Fortunately or unfortunately, death does not follow so quickly in one case as in the other, for a diatetically infected infant may live a long time. And until a crusade for pure milk sweeps over the entire land and reaches every dairy farm in operation, this wholesale infanticide will continue.

It seems to the writer that the nearest to the ideal method of obtaining pure milk has been approached by the Walker-Gordon Laboratory Co., which was organized in Boston a few years ago, and is now operating in sixteen cities in this country and Canada. Our profession owes a great deal to this company; for, through its management, it is possible to obtain a practically pure milk for infants' feeding. The dairy farms connected with this company are all managed in the same way. They are situated at reasonably safe distances from sources of contamination. The soil, drainage, elevation, and other facilities for successful grazing are all taken into consideration, and the barns and other buildings are carefully located and scrupulously clean. A physician examines the employes at regular intervals, and the employes are required to be educated commensurate with the character of their work. The milkmen are required

to make almost as much preparation before milking their cows as a surgeon does before making an operation. The milk received in sterilized and partially covered pails is strained, separated and rapidly cooled to a temperature of 40° Fahr., thus immediately inhibiting bacterial growth. The cows are examined every two weeks by a veterinary surgeon, and before admission are given the tuberculin test. Bacteriological counts are made from time to time and show that milk obtained in this way may contain only 100 germs per cubic centimeter. This milk will keep sweet for many days, and is frequently sent from this country to Europe to be used by returning travelers, and I have seen it put upon ocean liners in New York City to be used by travelers crossing the Atlantic. There is scarcely a summer resort in this country, west or south of Chicago, that cannot be supplied with milk from these farms.

Now the standard which has been raised, and maintained by this company is none too high for us to demand of every individual engaged in supplying milk to cities. We must demand pure milk, whether that milk is for use in the nursery or for general consumption. In the City of Grand Rapids we are fortunate enough to have a Walker-Gordon milk laboratory in successful operation. Every day is milk being shipped to different parts of the State; and I would have no hesitancy in undertaking to feed a Detroit baby from this laboratory, even during the hottest months of the year. I have done it successfully at shorter distances. The farm is situated about ten miles from Grand Rapids, and is under the management of Ira Johnson, a competent, scientific and trustworthy dairyman, who in

1899 took a training in Boston and obtained a license to operate a farm and milk laboratory. This farm is managed as has been described above; and the laboratory is equipped with all the necessary apparatus for modifying milk. A number of physicians avail themselves of this laboratory, and many infants' lives are saved every year. In short, the production of milk from this farm is a model that every dairyman ought to be compelled to follow. But unfortunately only a small percentage of infants receive milk from this laboratory, the cost being from 25 to 50 cents per day, placing it beyond the reach of a great majority, and the profession has not, as it might have done, and should have done, interested itself and educated itself in the percentage method of prescribing milk.

In our city, while the control of the milk is presumably under the Board of Health, yet it virtually is not. The Common Council elects for one year a milk inspector, empowers him to prosecute its ordinances which regulate the selling and examining of milk, the granting of licenses, and the inspection of herds and dairies. Over 4,000 cows are employed in producing milk for the City of Grand Rapids, while about 450 licenses are granted annually. It is obvious that no individual milk inspector can thoroughly and adequately make the necessary inspections, and tests entailed in the supervision of such a large enterprise.

It seems to the writer that the Board of Health should directly regulate the milk supply to every city, and the following plan has suggested itself to him as feasible, with modifications of course, according to the size of the city and other considerations.

First.—Have the Common Council set apart out of the city funds a milk-fund budget called the milk budget.

Second.—Have the Common Council appoint a board of milk commissioners, which board shall consist of seven members, viz., the Mayor, the Health Officer and the City Physician, all ex-officio, a Veterinary Surgeon, a Chemist, Bacteriologist and a Dairyman.

Third.—Have the Health Officer President or the Superintendent of this Board.

Fourth.—Have this Board meet at stated intervals and examine every applicant who applies for a license to supply milk to the city.

Fifth.—Empower this Board to make all examinations, inspections and testings that are necessary for the production of pure milk, availing itself of all the necessary assistants, and have it compensated adequately from the proceeds of the milk fund.

Under the supervision of the City Physician all poor infants of the city could be fed from a modified milk laboratory, and the adult poor could be provided with pure milk. So far as I know there is not a modified milk laboratory in the world thus established for distributing milk to the poor, and yet our cities expend an enormous amount every year for the care of its poor in other ways.

The percentage feeding of infants is a method that has been before the profession for some time; and yet seems to be very little understood by many physicians even in our large cities. It is receiving more attention every day, however, and especially from pædiatricians. It is so simple, so accurate, and subject to such variations, that when one becomes at all familiar with its use, he hates to attempt to feed a child in any other way. When the milk

arrives at the laboratory for modification, it is divided into its constituent parts, fats and proteids, or cream and skim milk. This is usually done at the farm by a milk separator. A 20 per cent. solution of milk-sugar in distilled water is used to supply the proper amount of sugar. Lime water or soda is used to give any degree of alkalinity the prescribing physician may desire. It can be heated to any degree of temperature, or for any length of time, and cereals or artificial foods may be added. In short, a physician can obtain from this laboratory any preparation he prescribes. He simply writes upon the prescription blank the percentage of the different products, and the prescription is filled in the laboratory with the same accuracy that is employed in a modern drug store.

Now as a guide to the beginner who prescribes modified milk, the Company has issued an abstract based upon the feeding of a large number of infants; and it gives the average percentage in the different weeks of life, and the amount used at each feeding, which is a great help to the physician at first; but he will soon learn that these percentages have to be subjected to all kinds of variations, and that every case is a law unto itself.

In concluding these remarks, let us state that the crusade for pure milk must receive its impetus from the medical profession; that every physician as a guardian of public health has a duty to interest himself in, and promote every measure, towards procuring pure milk for the masses; that the percentage method of prescribing modified milk from the Walker-Gordon laboratories is a scientific, practicable and accurate plan of

feeding infants; and finally, that the time has come when we cannot hypothesize the obligation we owe to our infants, by allowing them to be fed upon impure milk, commercially prepared artificial foods, and those at the hands of unskilled mothers and ignorant nurses.

DISCUSSION OF JOHNSTON & CAMPBELL'S PAPERS.

V. C. VAUGHAN, Ann Arbor: Dr. Johnston and Dr. Campbell are to be congratulated upon their papers, and the people of Grand Rapids are to be congratulated upon having such live wide-awake doctors in the city as they are. As somebody has said, about one-fourth of all the children born to the civilized world die before they reach five years of age; the percentage is a little more than one-fourth, and the greatest causes of death are disturbances of digestion, of milk poison, that is what it is—milk poison. Now if we should continue to feed children milk after they have manifested all the symptoms of cholera infantum, we would be guilty of giving them poison at the same time that they were dying from poison.

I want to say that the first attempt to furnish pure milk, so far as I know, was made to furnish the city of Detroit with pure milk in 1884, nearly twenty years ago, by a company at Northport. There is not a single new principle in the Walker-Gordon method of preparing milk, and if anybody wants to pay the Walker-Gordon people a royalty upon their method of preparing the milk, it is all right. The examination of cows we knew all about, and we knew the desirability of doing it long before we heard of the Walker-Gordon laboratory, and we knew that it was necessary to keep milk at a low temperature, in order to prevent the growth of germs, long before we heard of the Walker-Gordon people; we knew that, but something that the medical profession does not thoroughly appreciate, not only in regard to the feeding of infants but with regard to the feeding of all our city, is that we have certain definite food principles, we have fats and so forth, and it is necessary to get the proper amount of each substance. The Walker-Gordon people have organized their method and given these prescriptions, and if any good man will take the time to work it out he can work it out as well as they are doing it in this book; they have simply made the

method easy, that is all there is to it. I am not finding fault with them for it, because it was a proper thing for somebody to do, but please don't understand that they have made any great discovery in infant feeding.

There is danger of going into error on this question; there is no modification you can make of cows' milk that makes it woman's milk, absolutely none; diluting it and adding sugar to it does not make it woman's milk. There is this danger to be considered: people seem to think if they can get the Walker-Gordon milk it is not necessary to nurse the child—that is all wrong. Dr. Johnston and Dr. Campbell understand all these things, but they did not have time to emphasize them in their paper. I am not telling them anything new whatever.

There is an idea also that if you obtain your cream by the centrifuge, you get a much better cream than you do by the old gravity method. Let us understand this matter: It is a proper thing to run milk that is going to be fed to children through a centrifuge, not because you get a better cream but because you get out the particles of manure that Dr. Johnston talked about, you get out what you would call the slime. The cream separated by the centrifuge process contains more bacteria than the cream separated by the old gravity process. The cream when you put it into a centrifuge acts as a drag net, with the exception of some of the heavier bacilli, such as the tubercle bacilli, and the cream really contains more germs when separated by this process than by the old gravity process.

The exact amounts of sugar and fat fed to a baby are of importance since deficiency of either may result in mal-nutrition.

C. G. JENNINGS, Detroit: I think also, with Dr. Vaughan, that the section is to be congratulated upon having presented to it the papers of Dr. Johnston and Dr. Campbell, and for the practical demonstration by Mr. Johnston of the method of modifying milk. Dr. Vaughan has brought forward also the fact that the method employed by the Walker-Gordon Company is not a method developed by them, but I must confess that the Walker-Gordon Company is entitled to a good deal of credit, that is, if we can give a commercial company credit for anything that brings about a good result in the community. The fact of clean milk is one of the most important factors in infant nutrition or infant feeding, and I think it is to that that the Walker-Gordon Company's success is so largely due, for they have emphasized it and have practically demonstrated it by the organization of properly equipped modern dairies, and they have brought to the attention of the profession and public what perhaps they knew before. As Dr. Vaughan said, it is not a new thought that clean milk is necessary, but they have emphasized it in such a way that it has been of the greatest value to the profession, and I believe to communities in general. I believe that infant feeding at the present time is to quite an extent, and has been

to quite an extent, dependent upon the Walker-Gordon work.

Now as to the objections that have been raised to the Walker-Gordon milk, while there are theoretical objections, there is the expense of the Walker-Gordon milk to be considered. People who can afford it will try it and those that cannot will not. The objection as to separating the cream I do not think holds good practically; perhaps it does not separate the cream, so far as its digestibility is concerned, any better, but it is of equal value to gravity cream. The other objections are insignificant, and there are great advantages in milk prepared in this way; one of the principal ones, I think, is its convenience to the practitioner. Concerning the modification of milk from ordinary dairies the difficulty is its unequal composition, and the difficulty with cream is the fact that we cannot get uniform cream. With the Walker-Gordon Company, or any company that will give us a clean dairy, we will get clean milk, and clean milk in the modern acceptance of the term will be of benefit.

A MEMBER: This question seems to have two sides. I agree with Dr. Vaughan in regard to the originality of the matter, and I agree with him in regard to the expense. I have been having some difficulty along this line of infant feeding recently. How long this milk will keep when shipped, I haven't heard anybody say, but it is necessary that it keep some time, otherwise it would not be a great advantage to use it. Here is the trouble with dairy milk, I find it so in my town and I am raising three infants now by artificial feeding; you can make all the manipulations of cows' milk you please, but you cannot get it like the mother's by any means, and if it is deficient we must fit it to the child whether we use a commercial milk or a home milk. I have found this trouble in Sturgis; I got a milk that was not contaminated, I tried the feeding of one infant on this milk and I modified it according to the best authors, but my infant kept getting poorer all the time, and I manipulated the feeding of that child for ten days upon the milk that I was getting in Sturgis; with all of that manipulating my infant was losing flesh and was literally starving. I had to desert the milk and I am raising the child to-day on an artificial food, and it is doing well and getting fat; and in that case the artificial food must have all the credit. We know from our dairymen that milk is not pure and clean; they do not wash the udders of the cows; this milk comes into the market impure and then the physician is obliged to feed that impure milk and by modification get the best result he can; but it is impossible to make a success if you are placed in that position, and you have to take some other means, and I take the prepared foods. In the case I cited the child is prospering; the credit is not due to the food entirely, but it is due to the fact that I cannot get pure milk; the advantage of the laboratory is that you do get milk as pure as it can be made.

A MEMBER: We all recognize the fact that so large a proportion of our infants die, and we know that the cause is impure milk, and milk not adapted to the individual child. The impurity of milk lies partly at our doors as physicians, and the only way that we can eradicate the danger of such impurity is to force our city Boards of Health to furnish us with pure milk. The dairymen are ignorant and they are stubborn, and they must be forced.

In regard to milk, modified to suit an individual child, we cannot take Hill's formula and Roach's and the Walker-Gordon formulae, and put so much milk and so much cream and so much water together and expect the individual to thrive upon it, but we must adapt the formula to the child. We must have the proper percentages of fat and carbo-hydrates and the sugar in that milk, but the individual mother does not know that, and the majority of physicians do not know it; in the first place we do not know anything about the milk the child is getting, we haven't analyzed it. Of course the proper food is mother's milk, but we see we cannot get it in a majority of cases.

With regard to distributing stations, we know what is being done in Chicago, and we know what is done in New York through the Nathan Strauss laboratories, fourteen to twenty situated in different regions over the city, furnishing for the nominal sum of about five cents the amount of food necessary for a child through the day; so we can get a makeshift of pure milk, we can get properly modified milk at a price far less than we have to pay the Walker-Gordon people.

C. H. JOHNSTON, Grand Rapids: Six years ago the City of Rochester, N. Y., instituted a thorough system of milk inspection, including both chemical and biological examinations. Bacteriological counts of about 500 samples of milk have been made in each of the past 3 years, during which time there has been a decrease of 33% in the number of bacteria.

During the same time the Common Council of the city has granted the Health Officer \$900.00 per year for the purpose of improving the milk supply. A central station or milk laboratory was established on a farm four miles from the city and placed in charge of a trained nurse. The cans and all utensils coming in contact with the milk are steam sterilized. The nurse or her assistant goes to the stable at milking time, and after seeing that the cow's udder is carefully cleansed and the milker's hands washed, she removes the milk pail from the sterile bag in which it is carried and hands it to the milker. As soon as removed from beneath the cow the pail is covered with a double layer of sterilized cheese cloth, which is held in place with a wide rubber band, and taken to the laboratory. The milk is then properly diluted, and poured into sterilized bottles, which are corked and plunged into tubs of ice water. The bottles are then placed in racks, covered with ice, and shipped to the milk stations, one in each of the four quarters of the city. Each station is in charge of a trained nurse,

whose duty it is, in the absence of advice from a physician, to weigh the babies applying for milk, prescribe food according to weight, and advise the more ignorant mothers about air, food, clothing, sleep and rest for their infants during warm weather.

The results in the lessened mortality of infants during the past six years have been most marked. From 1891 to 1896 there were 982 deaths in the city in children under 1 year of age during the months of July and August; and 236 deaths for the same period in children from 1 to 5 years of age. In the years 1897 to 1902 inclusive there were but 519 deaths in children under 1 year of age during the months of July and August, and but 167 between the ages of 1 and 5—a diminution of 47 per cent. in the death rate of children under 1 year of age, and of about 30 per cent. in children from 1 to 5 years old.

Is not this pretty positive evidence of the benefit derived by a municipality from a thorough system of milk inspection, and from a system of milk stations in charge of trained nurses such as have been established by the City of Rochester?

No one claims that cow's milk or any modification of it is a perfect substitute for mother's milk, and it is a great misfortune for a baby to be deprived of it. No one should ever put a baby upon modified milk or any other artificial food without good reasons. Conditions, however, frequently arise where it is inadvisable or impossible for a mother to nurse her infant and in such cases *some modification of fresh cow's milk* is the only reliable substitute. And while there is, of course, nothing new in the *whole milk* put out by the Walker-Gordon laboratories, a *new era* in infant feeding was begun in 1891 when the Walker-Gordon Co. opened its first laboratory in Boston, which was also the first laboratory to be established in the world for the scientific modification of cow's milk for infant feeding.

A. M. CAMPBELL, Grand Rapids: I have very little to say about this subject. I cannot disagree with what the gentlemen have said in their discussions. Dr. Vaughan spoke about mother's milk, stating that there was no milk like mother's milk. Now, he knows and we all know that in very many instances the mother cannot nurse her own child; she might nurse somebody else's child successfully but not her own. We who are advocating the use of modified milk, are not advising our mothers to have their children leave the breasts and take modified milk; but when they come to us with anemic and marasmatic children, who cannot get good mother's milk, it is our duty to give them the benefit of what we consider the most scientific and accurate plan of feeding such children.

Dr. Jennings' remarks as to the wonderful effect that the laboratories have had in awakening the profession to the necessity of using pure milk was timely. We must educate mothers to use pure milk, and I think the Walker-Gordon methods have been a great education to the profession.

The Journal of the Michigan State Medical Society

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DETROIT, JULY, 1903

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Editorial

THE DETROIT MEETING.

The annual meeting of the State Society at Detroit, June 11th and 12th, was undoubtedly the most successful in the history of the Society, and, being the first since the reorganization, one of the most important. During the eleven months since the last annual meeting at Port Huron the state has been thoroughly organized; the fifty-eight chartered County Societies, representing seventy-eight of the eighty-three counties with a membership at this writing of 1750, being the result of the year's work of the Council and Officers of the State and County Societies.

The Council, presided over by the chairman, Dr. Leartus Connor, of Detroit, met the afternoon of the day preceding the meeting and carefully considered the large amount of work done during the year, and outlined its report to the House of Delegates. The Council had been composed of members appointed at the last annual meeting to serve until their successors could be elected by the House of Delegates, which was to meet for the first time this year. The House fully appreciated the work done by the members and returned to the Council eight of the former members for a period varying from 2 to 6 years. Two of the Councilors had requested not to serve longer. The new Council met on the last day, elected the officers of the old Council and outlined the work for the new year.

The House of Delegates met the evening preceding the meeting with almost

every delegate present; fifty-three of the sixty-five delegates registered at the meeting. It received the report of the Council and of the various committees; to expedite matters it appointed a business committee, to which all new business was referred without debate, a committee on finance and a nominating committee. Two other meetings of the House were held and its business was promptly transacted under the new constitution and by-laws, but one minor change having been made in the latter.

The first general meeting of the Society was held the morning of the first day. At this the address of the President was presented, in which he thoroughly discussed the work of the organization of the medical profession of Michigan and emphasized most emphatically that the work of the future lies in the County Society. The only name placed in nomination for the office of President was that of Dr. Wm. F. Breakey, of Ann Arbor, an honored member of the Society for 27 years.

At the meeting of the three sections papers of importance were presented and discussed. The general meeting and the sections were well attended. Five hundred and fifty-five members registered, which attendance more than doubles the attendance at any other meeting in the history of the Society. All the meetings were held in a large, commodious building; everything worked harmoniously; business was promptly dispatched; and there was not a discordant note.

Grand Rapids was chosen as the place of meeting for 1904, and the House of Delegates wisely extended the duration of the session to three days.

THE NOTTINGHAM MEDICAL ACT.*

The Medical Registration Board's amendments to the Chandler Medical Act introduced in the House by Representative Nottingham, M.D., and which were passed by both branches of the Legislature without material change or alteration, and signed by the Governor on June fourth, create one of the most efficient medical acts in the United States. As is usual with acts in some of the better states, such as Ohio and New York, it demands the State Examination Test as a sole qualification for license, and an applicant before applying for such qualification must be in possession of a standard of preliminary education of a grade not less than that represented by a diploma from a recognized and listed high school, academy, college or university, and is also required to be a graduate of a standard and approved medical college with a course of not less than four years of seven months in each year. The board is given authority to raise the standard of both preliminary and medical education and to recognize or to refuse recognition to high schools, academies, colleges and universities which, in the judgment of the board, fulfil or do not fulfil the requirements of standard and reputability as set by the board, but it cannot recognize a lower standard than that set by law. Of course this provision of the act gives the Medical Registration Board almost arbitrary power as regards standards, but in order to raise the standard of medical

qualifications in this state and to maintain it, this power is absolutely necessary. Under this provision for increased standard Michigan will be able to enter into reciprocity relations with all of the better states of the Union. Already she has unlimited reciprocity with Wisconsin and Indiana, and in a short time will have similar relations with Ohio, Iowa and Kansas. She has partial reciprocity with Illinois, New Jersey and Maine and negotiations leading to reciprocity with several other states. Michigan has been called the "mother of practical medical reciprocity" from the fact that she took the first steps which resulted in the formation of the American Confederation of Reciprocating, Examining and Licensing Medical Boards, and through this Confederation a basis for the reciprocal exchange of state certificates has been created whereby medical reciprocity between several first-class states has become a reality, not a theory as in the past.

The discipline clause, which has been added to the medical act, will undoubtedly do something towards purifying the medical atmosphere of this state. From certain quarters we hear that the board has been granted far too arbitrary powers in enforcing the penalties provided for professional immorality, but it is necessary that the board should have absolute power to administer properly and fearlessly a clause of this nature. The Chandler Medical Act has withstood attacks upon it not only in the State Supreme Court, but in the United States Supreme Court. The amendments are built upon the same sure legal foundation and likewise will withstand similar attacks.

*To be found on page 328 of this issue.

DO IT NOW.

TO GATHER STATISTICS REGARDING THE
PREVALENCE OF VENEREAL DISEASES
IN MICHIGAN.

At the last meeting of the Michigan State Medical Society a committee was appointed to gather from the members data regarding the prevalence of venereal diseases. Statistics to be of value must approach accuracy, and to secure this it is incumbent upon every member of the Society to aid the committee in every way possible. Familiarity with danger breeds contempt, and because of the frequency of venereal diseases, coupled with the fact that they seldom prevent the following of the ordinary vocations, and primarily are seldom the cause of death, they have come to be regarded by the laity of little moment, and to a certain extent this feeling pervades the medical profession. If these diseases and their sequelae affected only those who acquired them by acts of venery, an apathy regarding their existence might be pardoned on the ground that the sufferer was being punished for wrong doing, but when we consider the large number who are the innocent victims of disease, the importance of inaugurating measures to control the spread of the diseases will be apparent to every one. To a large extent the frequency of these diseases is due to a lack of education on the part of the laity, and also to a laxity of health laws, and it becomes us as educators, as well as physicians, to be prepared with facts upon which arguments may be based in our efforts to control venereal diseases.

There are 1,800 members of our Society, and it will be impossible to reach them all personally, but it will take but a few moments of the time of each to report to the committee the number of cases, and the disease, or its sequela, which he is treating say on July 1st, 1903. Will you do it?

In the next issue of the Journal will be found a blank for keeping record of these diseases in a uniform manner for statistics during the year.

ALBERT E. CARRIER.

The committee is at work formulating plans for future data and will probably have something to offer in the next issue of the Journal.

The committee is composed of Albert E. Carrier, M. D., Chairman, Detroit; R. H. Spencer, M. D., Grand Rapids; J. F. Breakey, M. D., Ann Arbor.

County Society News.

HILLSDALE COUNTY.

Program of the quarterly meeting of Hillsdale County Medical Society, Friday, May 15, 1903, at Hillsdale, Michigan:

Call to order by President.

Reading of minutes of preceding meeting.

Admission of new members.

"Retroversion of the Uterus," Dr. Arthur G. Doty, Frontier. Followed by Dr. R. W. McLain, Allen; Dr. A. Strierner, Ransom.

"The Value of Drugs in Acute Diseases," Dr. Walter H. Sawyer, Hillsdale. Followed by Dr. W. H. Atterbury, Litchfield; Dr. W. H. Ditmars, Jonesville.

"Some Points in Diagnosis," Dr. W. R. Ditmars, North Adams. Followed by general discussion.

"Pneumonia," Dr. Charles Barnaby, Somerset Center. Discussion: Dr. Bower, Camden; Dr. Hughes, Cambria.

"Haughey's Ideal Suture," Dr. W. H. Haughey, Battle Creek.

Address: "Phases of Appendicitis," Dr. Hal C. Wyman, Detroit.

H. H. FRAZIER, Secretary.

IONIA COUNTY.

THE CONSERVATIVE ELEMENT IN THE TREATMENT OF APPENDICITIS, FROM A SURGEON'S STANDPOINT.*

SCHUYLER C. GRAVES,
Grand Rapids.

The great question, as to the treatment of appendicitis, has not been settled. It is still *sub judice* and it will remain so until a ripper—a more extended—experience has cleared away the doubts at present existing in the minds of many conscientious men, and has decided once for all the verities in the case.

It is deplorable that such disagreement should obtain in a matter so fraught with the element of life and death—a matter bearing so directly upon the weal or woe of our fellows, but we must plod patiently on, acting as our experience and our conscience dictate, until all can see alike. Possibly this day may never dawn. Possibly the personal equation on the bed and at its side, physical resistance, above or below par, on the one hand, and individual skill greater or less, on the other, may prevent any unity of action among medical men. Personally I feel that the upshot of the whole matter will prove to be something of this sort. In the event of such an issue a surgeon may operate or not upon any given case; but as appendicitis is a purely surgical malady it will be the duty of any physician to at least keep in touch with an experienced surgeon during the handling of appendiceal cases.

From the foregoing it will be seen that, for the present and possibly for the future as well, your orator takes a stand against any extreme view in the treatment of appendicitis.

Each operator, according to his experience, is an authority, and he would be quite the opposite of independent who, in the matter of treatment, would espouse a line of procedure diametrically opposed to the lessons learned from his own work, provided, of course, that the knowledge thus acquired had resulted in the placing of recovery above death in his percentage tables.

This paper is not a treatise on the subject of appendicitis; but bears chiefly upon that portion of the subject which carries with it to-day doubt and disagreement viz.: the treatment.

*Read before the Ionia County Medical Society, at Belding, May 14th, 1903.

The etiological factors—diminished resistance, intemperance in diet, constipation, fecal (or other) concretions, occlusion, as subsidiary; and, over and around all, the microbes—the *Streptococcus Pyogenes*, the *Staphylococcus Pyogenes Aureus* or *Albus*, the *Bacillus Coli Communis*, as primary factors, I leave with this bare mention.

The varieties are more important as they have direct bearing upon the treatment.

As my own classification, I would name, 1st. Appendicular colic, due to angulation (a variety, by the way, more fanciful than real in many instances); 2nd. Inflammatory, non-suppurative, terminating in resolution. I believe these cases occur, despite the skeptics. 3rd. Inflammatory, infected, suppurative, non-occlusive, with discharge of pus into lumen of cecum; 4th. Inflammatory, infected, suppurative, occlusive (one or more occlusions), with eventual perforation into the circum-appendiceal region; (5th). The last named when nature, by the kindly act of a beneficent type of peritonitis (plastic), builds a local entero-omental buttress about the pus, before or after rupture; 6th. The 4th when plastic peritonitis fails and the virulent pus escapes into an unprotected abdominal cavity. Cases of rupture of the secondary abscess, as noted in variety 5, are, practically, the same as those represented in No. 6, the general peritonitis being developed after one more stage, viz.—an unsuccessful attempt by nature to stem the tide.

The terms "recurrent" and "obliterant" appendicitis, and the multiple-abscess type, are self-explanatory and involve, to a greater or lesser extent, the preceding varieties.

The symptoms you all know. Sudden pain, general at first, then local; initial nausea or vomiting; pinched facial expression; tenderness upon pressure at site of appendix; local muscular rigidity; temperature, anything; pulse, anywhere. The pain, the tenderness upon pressure, and the local muscular rigidity form the great and reliable trinity in the symptomatology. The other indications may be absent; these, never.

What is the natural history of these various types of the disease?

The appendicular colic is simply painful; but I freely grant that this diagnosis can very seldom, if ever, be accurately made, and I am only speaking now in the abstract. The inflammatory, non-suppurative type resembles the colic, in its bearing upon life, though with a greater chance of subsequent infection and seriousness. The inflammatory, infected, suppurative, non-occlusive form, with discharge of pus into lumen of caecum,

has but little bearing upon the life of its possessor. The inflammatory, infected, suppurative, occlusive is often seen; an appendix, still unruptured, but filled with streptococci or other culture, being removed from a free peritoneal cavity. It is needless to add that in such cases life trembles in the balance. The latter variety when perforation has led the pus into a protected space, the result of lymph exudate, is a very safe type of appendicitis. This is the so-termed circumscribed-abscess form of the disease.

In my experience these cases have seldom died when left to the course of nature. Fluids, under pressure, move along the lines of least resistance. These lines, sometimes, are very strange ones. The road may be toward and into the bladder, or beneath Poupart's ligament, or into a bowel, or into and beneath the lumbar muscles; but according to my observation the route most generally chosen is that into a bowel. When this occurs the temperature drops to normal, the pulse to normal (provided either or both have been elevated), pain disappears, the "lump" vanishes, and pus, sooner or later, appears at stool. Occasionally the line leads between bowel-coils and general peritonitis ensues.

The type rupturing primarily into the free peritoneal cavity, leads, as we all know only too well, to general septic peritonitis. This latter term, in my experience, spells the word "death." I have tried the plan of free irrigation and drainage in treating these cases. I have tried the McCosh plan of injecting a solution of salts into the bowel-lumen as an additional feature. I have tried the plan of George Ryerson Fowler, of elevating the head of the bed in order to deviate the absorption-currents from the diaphragmatic to the pelvic regions, plus drainage. I have tried Murphy's late plan of simple appendectomy, without irrigation, but with drainage. I have tried orrhotomy in the shape of Marmorek's serum. I have tried gastric lavage and enteric flushing, and opium, and salines; but the term "general septic peritonitis" has, to me, with but one exception, spelled the word "death."

It would seem that the search of surgical scientists should be directed toward the elimination of this veritable scourge from the domain of surgery, and this, indeed, we all seek—only by different routes.

It is the conviction of all, I believe, that there is, at present, no way by which appendicitis can be treated with 100% of recoveries. We must then espouse that plan which is associated with the least mortality.

It is said by those who recommend operation in every case that if surgical interference could be had within the first twenty-four hours, the mortality would be practically nil. I think so, too; but the difficulty with this suggestion lies in the impossibility of detecting the real incipency of the disease.

I have felt certain that I was operating within the twenty-four hour limit only to find that what I took to be the initial pang of appendicitis was, as a matter of fact, the pain of a perforation. Death following the knife, in such a case, when the pulse, ante operationem, was 110 and post operationem, 140, 150, 160, etc. with the inevitable collapse, makes one feel as though he had deprived a fellow of a chance to recover through the development of a local abscess with its subsequent natural or artificial termination.

There was a time when I was an extremist. I used to argue thus,—“Let us *trust* this disease less and *recognize* its nature *more*, by opening the door and looking in.” I did this for some time as a routine practice, but I found that opening the door to a better acquaintance with the disease opened the door of eternity to the patient, in too many instances. I soon felt that I could be satisfied with a less accurate knowledge of the workings of the disease if by interfering less I could see more of my patients restored to health and happiness. Thus my plan of action was changed to practically the opposite, and I saw with great gratification that funerals were less in evidence after my visitations. I found that with less operating in the acute, unprotected cases I could save more lives. I found that absolute rest, local refrigeration, and gastric emptiness produced excellent results. Cases resolved, or developed abscesses which were successfully attacked operatively. Some time after this, a year or so, the very interesting and, to my mind, very important paper of A. J. Ochsner came out. His ideas coincided with what my experience had taught me, with the exception, of course, of the gastric lavage in case of persistent vomiting.

Thus we see the two schools fairly portrayed. Their differences are only in regard to the treatment of the acute stage of the unprotected cases. We are all agreed that acute, circumscribed abscesses should be attacked operatively, and we all know that the time, par excellence, for successful operating is during an interval; which, by the way, is the antipode of the period synchronous with the development of septic peritonitis.

Each operator must be his own judge in this matter, and if he feels that he is in the right, let him go ahead and may God speed him; but I must

raise my voice against indiscriminate operating upon any and all cases of appendicitis, at any and all times, and by any and all types of operators, real or fanciful.

The best results, in my opinion, can be secured by a strict adherence to the simple plan as enunciated by Ochsner in the acute, unprotected cases, by operation in cases of circumscribed abscess, and by operation, especially in recurrent cases, during an interval following an acute attack.

Finally, the less you have to do, operatively, with general septic peritonitis, the more credit will redound to the art and the more confidence will be felt in the words and work of the artist.

LAPEER COUNTY.

The regular meeting of Lapeer County Medical Society will be held at North Branch, Wednesday, July 8, 1903. Program:

1. "Medical Treatment of Internal Hemorrhage," Dr. C. A. Wisner, Columbiaville.
2. "Pneumonitis," Dr. W. J. Taylor, Burnside.
3. "Strychnine Poisoning," Dr. G. W. Jones, Imlay City.
4. "Diphtheria and Treatment," Dr. O. J. Thomas, North Branch.

H. E. RANDALL,
Secretary.

MONTCALM COUNTY.

The following is the program of the Montcalm County Medical Society, for the meeting to be held at Stanton, Michigan, Wednesday, July 1:

Call to order by the President and reading of minutes of last meeting.

Exhibition of patients.

Communications.

Report of delegate to State Medical Society.

Paper: "Cystitis," Dr. S. M. Gleason. Discussion led by Dr. A. P. Culbertson.

Paper: "Hystero-Epilepsy," Dr. W. P. Gamber. Discussion led by Dr. Josiah Black.

Paper: "Some Great Advances in Surgery," Dr. F. R. Blanchard. Discussion led by Dr. John Avery.

"Is Foetal Deformity Dependent on Maternal Impressions?" Dr. James Purden. Discussion led by Dr. A. L. Corey.

Paper: "Cholera Infantum," Dr. A. E. Savage. Discussion led by Dr. D. K. Black.

Paper: "Diphtheria," Dr. S. S. Ludlum. Discussion led by Dr. N. E. Bachman.

H. L. BOWER, Secretary

CHRONIC INTERSTITIAL NEPHRITIS.*

GEO. F. BUTLER,

Alma.

Our knowledge of the nephritis has made considerable advances during the past few years, and the histologic studies of the kidney have enabled us to recognize in their minutest details the disorders which inflammatory conditions inflict upon the renal gland.

The history of the kidney diseases since the labors of Bright in 1831, to our day, shows the incessant progress which has been made in this part of pathology. If the therapeutics of these affections still leaves something to be desired, it must be recognized nevertheless that pathologic anatomy and clinical observations have given us new light on the state of the kidney, and on the influence which this state may have in the development of symptoms obscure and badly defined, and which it was impossible for us heretofore to assign to their proper place in our classifications.

This progress in the anatomo-physiologic study of renal lesions has demonstrated this first point, that affections of the kidney may be accompanied with albuminuria without, for that reason, having an inflammatory origin, and, while some of these affections depend on a congestive or phlegmasic process, others are degenerations, more or less complete, of the kidney, which may go on without the participation of any hyperemia.

In this paper, I shall confine my remarks principally to the discussion of that form of nephritis which belongs to the great group of sclerosis, known as interstitial nephritis. It is unnecessary to enter fully into the pathology of contracted kidney. I wish, however, to remind you of two important factors, viz.: The glomeruli, the essential part of the renal gland, are scarcely recognizable, and the divisions of the renal arteries which furnish the vessels constituting the glomeruli, have undergone alteration.

This alteration in the vessels is not limited to the kidney, and here is a point to which I desire to call your attention. In fact, a careful examination of the arteries of persons suffering from renal cirrhosis shows that they are degenerated, from the heart to the capillary divisions. The lesions of the heart it will be unnecessary to discuss.

*Read before the Montcalm County Medical Society, April 9, 1903.

Several theories have been proposed to explain the vascular lesions which accompany interstitial nephritis. These may be summed up as follows: 1st, The renal affection is consecutive to the cardiac affection (Rayer); 2nd, The renal lesion is primary. With regard to the latter hypothesis, we have the three following explanations:

(a) The hypertrophy of the heart is the consequence of the mechanical impediment to the circulation in the sclerosed kidneys (Traube).

(b) It is the consequence of the increase of general arterial tension, due to spasm of the small blood vessels, resulting from the presence in the blood of materials destined to be eliminated by the kidneys.

(c) It is due to generalized lesions of the small blood vessels of the organism; this alteration constitutes the *arterio-capillary fibrosis* of Gull and Sutton.

Richard Toma maintains that in the actual state of science, we are unable to determine whether the lesions of the blood vessels are primary or consecutive.

As for the arterial system itself, it is unquestionably diseased, and the vessels of the lungs and especially those of the brain, are also degenerated. Lancereaux and Peter attach great importance to this intimate correlation, which we have all had occasion to note, existing between cirrhosis of the kidney and a profound alteration of the entire circulatory system.

Personally, I believe with Peter, that it is because there is a general endarteritis that the left ventricle hypertrophies, by reason of its efforts to overcome the obstacle which the lesion opposes to the arterial circulation. It is because there is general endarteritis that there is renal endarteritis, and because there is renal endarteritis there is interstitial nephritis.

There are marked differences of opinion regarding this, however. Henry Morris thinks secondary renal sclerosis is rare, while Osler believes that arterio-sclerosis is much more frequently the cause of chronic nephritis than is generally supposed.

The question naturally arises, what is the cause of this vascular and renal degeneration?

Some of the predisposing or exciting causes that have been mentioned, are climate, gout and the lithemic diathesis, lead, valvular disease of the heart, grip, malarial fever, alcohol, as part of general fibrosis, syphilis, mental depression, hard mental work with insufficient exercise, chlorosis, various cachexias, and diseases involving certain excretory organs, as chronic skin diseases,

hepatic and intestinal affections, and auto-toxaemia. The latter cause I believe to be the most frequent and important, especially auto-toxaemia of digestive origin.

In view of the fact that the approach of primary interstitial nephritis is one of the most stealthy and insidious of all diseases, it is essential that the disease process be recognized at the earliest possible moment. The failure to make an early diagnosis is not always the physician's fault, for almost invariably the disease affects those who have been previously robust and healthy; usually high-livers and over-nourished individuals, and the malady may be well advanced before any noticeable symptoms prompt the patient to consult a physician. The cirrhotic process may have continued for five or ten years, with scarcely any perceptible manifestations, and it is often first discovered in a supposedly healthy individual when he applies for life insurance.

When a man past forty years of age, who is of full habit, of sedentary occupation, and who has for years led a strenuous business or professional life, consults a physician, the doctor should not forget the possibility of the presence of interstitial nephritis, and a most thorough and careful study of the case should be made. The diagnosis of the advanced disease can scarcely be overlooked by the most superficial observer, but a diagnosis of the early stages may tax the skill of the best of us. How may we early recognize the presence of the disease? It is frequently characterized by gastro-intestinal derangement, "fermentative dyspepsia" so-called, eructations of gas, abdominal discomfort, constipation, coated tongue, pain in the back at times oxaluria and excess of indican in the urine and other symptoms of auto-toxaemia, such as dryness, and pruritus or prurigo of the skin, purpura, eczema, headache, pallor, nosophobia, hypochondria, etc. The mind suffers with the body, which suffers most is often difficult to determine; not only is physical energy impaired but so is that of the mind and reason; the temper is vacillating, and the patient is moody, often irresolute, anxious, nervous and melancholic. He is easily fatigued, and both mental and physical fatigue increase auto-toxaemia in two ways: First, by the direct products of nerve waste, and second, by the fatigue of the organs of sanguification and elimination, from overwork after the loss of inhibitions, from central nerve tire.

The various products produced through normal work are eliminated by various channels. Some

are transformed in the alimentary canal into innocuous substances. Gases are eliminated by the lungs. Other compounds are intercepted and decomposed in the liver. Certain effete products are eliminated by the kidneys and skin. When any one of these emunctories is interfered with in discharge of its functions, the phenomena of auto-intoxication make their appearance, and the toxins gain access to the blood and are presented to the kidneys in excess, not only irritating and degenerating the kidneys, but the walls of the blood vessels as well.

Increased arterial tension follows, succeeded by evidence of arterio-sclerosis and atheroma.

A careful examination of the heart will disclose certain rythmical disturbances. The second cardiac sound is *always* accentuated, sharper and louder than normal, and is best heard in the second right intercostal space, within an inch and a half of the sternum. In many cases—at least 80 per cent.—the normal area of cardiac dullness is more or less extended below and to the left, and when the disease is well advanced, this feature is prominent.

The early rythmical disturbances are dependent on alteration of the cardiac muscle, the result of a primary fibrous degeneration of the left ventricle, a degeneration which is synchronous with the interstitial alterations taking place in the kidney. Potain thus describes the disturbance of the cardiac rhythm which supervenes in interstitial nephritis: "We distinguish three bruits, namely, the two normal sounds of the heart, and a morbid bruit superadded, which occurs immediately before the first sound, preceding it, however, by a brief pause, which is almost always shorter than the lesser pause. This bruit is much duller than the normal bruit. It is a shock, a perceptible heaving; it is hardly a real bruit. When the ear is applied to the chest, this bruit affects the tactile sensibility more, perhaps, than the auditory sense. The point where it is perceived the best, is a little above the apex and toward the right. But it may sometimes be distinguished throughout the whole extent of the precordial region. With this bruit the cardiac cycle is completed by three sounds of unequal length, and sometimes unequally distant, a rythm which the ear seizes with extreme facility, provided it has once learned to detect it."

The arterial tension is high; the pulse is invariably full and hard, never weak.

No symptoms occur as a rule, so long as the heart performs its work well. The patient's at-

tention is usually first attracted by epistaxis—disorders of vision, muscular cramps, and increased urination, and inquiry often reveals the fact that for months or years previously, excitement or exertion has caused breathlessness and palpitation of the heart.

As the disease progresses and there occurs failure of compensation, the cardio-vascular symptoms become more prominent. There may be present congestion and oedema of the lungs, obstinate attacks of bronchitis, and acute inflammation of the pleura, lungs, or peritoneum. Uraemic disorders now manifest themselves in some of the following forms: Diarrhoea, post-cervical neuralgia, sciatica, dyspnoea, drowsiness, coma, and sometimes convulsions.

With failure of compensation diagnosis is difficult. If the heart is primarily at fault, we have a congested kidney and hyaline casts only, in the urine. A therapeutic test of diagnostic value is digitalis, which will usually relieve the congestion and cause the albumen and casts to disappear from the urine.

When a person is suffering from interstitial nephritis he habitually rises at night frequently to pass urine, which to the eye appears normal in its transparency and nearly so in color. The urine is limpid, and when you examine its density you will find it always below 1020, and oscillates between 1005 and 1010. You may not find any, or scarcely any, traces of albumen, and it requires a good deal of experience to be able to detect a slight opalescence determined by heating. Various chemical tests, however, should be employed. Hyaline casts may be found if the sediment is concentrated. If you seek for tube casts you will not meet with any in the great majority of cases; if you determine the quantity of urea, as you ought always to do in such cases, you notice that the mass of urine contains but very little of it. The development of this disease is not at all typical. All the varying and manifold symptoms which I have described often manifest themselves with great intensity, and in order to be clearly diagnosticated, it calls for all the sagacity and experience of the physician, for these patients have little or no oedema usually, they have a great quantity of urine, and the urine may contain no trace even of albumen. How many cases of death unexplained have resulted from interstitial nephritis? How many diseases have deceived the physician as to their true nature, and have been dependent exclusively upon a renal cirrhosis? The number is greater than you would suppose, and such mistakes constantly

committed, result from this fact, that physicians have always been in the habit of referring for the diagnosis of chronic nephritis to Bright's description, and have an idea that it is necessary in order to be warranted in diagnosing this affection, to have general oedema and scanty urine which must be very albuminous. When these symptoms are not found, they seek elsewhere for the cause of the disease, and ascribe it by turns to other organs.

Such a mistake we ought never to commit, and whenever we notice severe disorders which a local condition cannot explain, we should examine the urine, and if we note a low density, if we detect troubles in the rythm of the heart, we should be persuaded that it is to the kidneys that our investigations should be directed, and it is there that we should look if we would find the real origin of the symptoms which we observe. It is to be deplored that many physicians base their diagnosis on the urinary findings alone, whereas the diagnosis should be determined by the physical findings, and the chemical and microscopic examination of the urine is merely confirmatory evidence. The prevalence of the disease may be appreciated by a recent statement of Dr. C. L. Mix, who says that $3\frac{1}{2}$ per cent. of the total deaths in Chicago during each of the past two years have been due to the various forms of chronic nephritis, and constitutes from two to four per cent. of the physicians' practice.

Regarding the prognosis of interstitial nephritis it is much more favorable than many oculists believe who give a two years' prognosis in cases of retinitis albuminuriae. The presence of these retinal changes does not afford any positive indication of the nature of the kidney disease, or of the stage which it has reached. These changes are found in every malady which is attended by albuminuria; not only in Bright's disease, but also, for example, in the albuminuria of pregnancy or of diphtheria, or in that consecutive to scarlatina. While there is no likelihood of a cure, I believe with care a patient's life may be prolonged for from five to fifteen years and even longer; many patients live fairly useful and undisturbed and reasonably comfortable lives for a long period.

Possibly too much time has been devoted to etiology and diagnosis, and I will now discuss the therapeutics, which is of equal moment; for as physicians we fail to grasp the true principle of our profession if we neglect that important branch of medicine, which, after all, as has been

well said, is "the keystone of the arch upon which all medical knowledge rests."

The therapeutic indications vary according to the period of the disease, and a certain medication which at the onset might produce untoward results, can, on the contrary, be administered with advantage at a more advanced stage of the affection. There is not, in fact, any treatment for interstitial nephritis; there are successive treatments, and it is necessary that the physician, following step by step the progress of the disease, shall vary the choice of his remedies according to the circumstances supervening in the course of the affection. If certain medicines have at times been attended with success, and at others with failure, it is because physicians have not been careful rigorously to determine at what period of the disease the medicament should be employed, but have administered it tentatively or at haphazard.

The treatment is divided into dietetic, hygienic, hydrotherapeutic, and medicinal. It must be our endeavor to so modify the circumstances and habits of the patient as to lessen so far as possible the work of the kidneys. Nitrogenous food should be reduced, although it is perhaps unnecessary to abstain from such diet entirely, for we must remember that we have to guard against both uremia and anemia. Authors are by no means unanimous as to the best diet in this disease. All the *a priori* reasons which have been urged in favor of milk or any other particular diet, are fallacious, and the only way to attack the problem is to carefully observe the condition of the urine, not only as to the amount of albumen excreted, but as to its urea and other waste products as well, and also as to the condition of the patient upon different diets.

A series of observations conducted a few years ago when I was a member of the medical staff of Cook County Hospital, Chicago, revealed the following results:

1. Quantity of urine. The amount of urine secreted was greater upon a farinaceous or milk diet than upon a full diet.

2. Specific gravity. No special influence was noted, although it was a little lower on farinaceous and milk diets.

3. The quantity of albumen passed. There was, strange to say, less albumen passed upon a full diet, than upon farinaceous or milk diet.

4. The quantity of urea passed. This varied so that no reliable conclusions could be reached, sometimes less urea was passed upon a full diet than upon farinaceous or milk diet, and vice

versa. Often also there was less urea passed upon a farinaceous diet than upon a diet of milk.

5. General condition of patient. Contrary to the observations and opinions of many noted clinicians, I found the majority of patients did better upon a fairly full diet, as they were less liable to uremic symptoms. While upon this diet, however, free elimination was maintained.

For the average patient, therefore, I would recommend about the following method of feeding:

The patient should have three meals daily, at intervals of four or five hours, and no solid food should be taken between meals. The most important meal should be in the middle of the day, when he may have a little meat with short fiber, such as mutton, chicken, game, etc. In the morning or evening, he may be allowed some fish. He may partake of vegetable food, particularly the farinaceous. Milk may be employed freely, without the patient dislikes it, when water, preferably some pleasant alkaline water, may be drank freely.

Alcoholic stimulants and tobacco should be prohibited, although if the patient has been addicted to the use of alcoholics, mild red wine may be allowed. Highly seasoned and smoked foods, and tea and coffee should not be indulged in.

If possible, these patients should be free from care and anxiety and limit the amount of mental and physical work, although a moderate amount of daily exercise should be taken, and they should dwell in a climate that is warm, dry and equable, equability being of more importance than warmth and dryness, since the invalid may keep within doors after sunset.

The healthy performance of the functions of the skin is an important point in the hygiene of Bright's disease. We all know the intimate relation which exists between the functions of the skin and those of the kidneys. Authorities have long been in the habit of prescribing free sudation in Bright's disease, whether by hot-air baths, by vapor baths, or by the employment of hydrotherapy. In the employment of any hydrotherapeutic measures we must avoid every cause of renal congestion, and in the applications of hot air and cold water by unskilled attendants, which are practiced in Turkish bath parlors, it often happens that there is an aggravation rather than an amelioration of the disease.

Mineral waters are often beneficial. They increase not only the watery constituents, but the excretion of the waste products of tissue

metabolism, which are washed out from the tissues and the blood itself. Both laxative and alkaline-chalybeate waters are valuable.

Drugs have their places in the treatment of interstitial nephritis, it is true, but, after all, the little, yet very essential things of eating, drinking and doing, influence the patient's comfort and gradually turn the scale of health in his favor.

A good prescription to keep a patient on is the following:

Iodide of Sodium, 15 to 30 grains.

Phosphate of Sodium, 30 to 45 grains.

Chloride of Sodium, 90 grains.

Water, 1 quart.

This can be taken freely as a drink. It is a good eliminant, besides the iodide is a vaso-dilator and of great value in progressive lessening of elasticity and contraction of the smaller arteries. Moreover, this combination modifies the state of albuminoid substances in the blood.

When compensation fails, digitalis may be necessary, but it should be combined with some vaso-dilator to overcome peripheral resistance. Such drugs are the nitrites—such as sodium nitrite, spirit of nitrous ether and nitroglycerine, as well as the iodides, and opium. The nitrites have only one objectionable feature; they are much more rapid in their action than digitalis, while their effect is more transitory. In bad cases, I am partial to opium. It acts with about the same rapidity as digitalis, strengthening the heart, rendering the pulse fuller and firmer, and dilating the arterioles. It is of additional value in many of these cases on account of its hypnotic, analgesic and antispasmodic action. In the doses employed, it does not seem to make any material difference in the elimination of waste products. From 2 to 4 minims of the deodorized tincture are usually sufficient. As a general cardiac tonic, strychnine is unsurpassed.

To combat the anasarca, and the multiple consecutive effusions, the dyspnea, convulsions and other uremic symptoms, we may have to resort to the successive and even simultaneous use of stimulants, diuretics, purgatives, and diaphoretics. There is little choice in the remedies to be used in these conditions, the up-to-date physician being perfectly familiar with the medicaments best suited to the various serious symptoms to be overcome.

At certain stages of the disease, especially if the patient is very anemic, Basham's mixture will be found to be of great value.

We should not forget that purgatives play a very important role in the treatment of chronic nephritis, and fulfill three great indications: First, in determining an irritation upon the intestinal mucous membrane, they produce a revulsion from the inflamed kidney; then in bringing about a hypersecretion from the glands of the intestines, they deplete the vascular system, and thus combat the anasarca and oedema which accompany the nephritis; lastly, and especially, they enable the solid and toxic matters of the urine in cases of uremia, to find a supplementary way of excretion. This last mode of action is in my estimation far the most important, and free purgation is especially beneficial in interstitial nephritis, and by the judicious use of purgatives, and free elimination, we may greatly prolong the lives of the victims of this disease.

Entertaining the views I do regarding the chief etiologic factor of this malady and the consequent pathologic condition, it is difficult for me to understand how splitting the capsule or even a stripping back of the capsule as far as the hilum, which has been recommended recently, would alter the pathologic process. I think it is but another case of "The Man Behind the Knife."

Recovery under any treatment is rare, but we should not forget that in such cases, to prolong the life of our patients, and render them comfortable is a result worth striving for. Remember that each case must be treated individually; that there is no dextrous legerdemain required, but a thorough understanding of the pathologic conditions, natural processes, and perfect familiarity with the therapeutic measures employed, are necessary to insure success.

ST. JOSEPH COUNTY.

A combined business and social meeting of the St. Joseph County Medical Society was held last month at Klingers Lake. After a pleasant day on the lake, the Society was called to order at Oakwood Tavern. Dr. Slate was elected the Representative in the House of Delegates of the State Society. Dr. Lang reported a number of interesting cases. The next meeting of the Society will be held on July 14th at Sturgis.

J. R. WILLIAMS, Sec'y.

TUSCOLA COUNTY.

The third regular meeting of the Tuscola County Medical Society will be held at the Pres-

byterian Church, Caro, Mich., Monday, July 13, 1903. Every physician in the county is cordially invited to attend this meeting, to take part in the discussion of the papers and to become a member of the society. Program:

1. Call to order by President, A. L. Seeley.
2. Reading of minutes of previous meeting.
3. Presentation of clinical cases.
4. "Smallpox," J. E. Handy. Discussion opened by F. D. LeValley.
5. "Empyemia," report of cases, H. A. Bishop.
6. "Cholelithiasis," D. P. Deming.
7. "Chronic Urethritis in the Male," F. P. Bender.
8. "Cancer of Liver," report of a case, autopsy, J. H. Hays.
9. "A Post-Mortem Diagnosis," M. M. Wickware.
10. "Cold in the Treatment of Rheumatism," A. L. Seeley.
11. "Eclampsia," B. D'Arcy.
12. Report of delegate to State Society, P. J. Livingston.
13. Unfinished and miscellaneous business.
14. Announcements.

Adjournment.
A banquet will be served in the evening by the ladies of the Presbyterian church.

W. C. GARVIN,
Secretary.

WAYNE COUNTY.

The following are abstracts of papers comprising a symposium on Anesthesia; the papers were read before a general session of the Wayne County Medical Society, April 16:

CHLOROFORM.

GILBERT J. ANDERSON,
Detroit.

The action of the drug is reviewed.* The following stage is the condition in which the patient should be kept for ordinary surgical anaesthesia: Muscular system relaxed, respiration quickened but shallow, pulse about normal, pupils rather contracted, reflex winking upon touching the conjunctiva slightly manifested. Pushing the anaesthetic beyond this point, stertorous breathing followed by failure of respiration, a weaker and more rapid heart action, dilatation of pupils, loss of reflexes, then finally failure of

respiration and pulse, collapse, and death, ensue.

Chloroform is well taken by children. Valvular lesion with good or fair compensation is not a contra-indication for administering chloroform. It is to be preferred in operations on the air passages, in atheromatous conditions, in kidney lesions, and in brain operations. Likewise it is the choice in labor.

Chloroform is administered in two ways—the high and low percentage vapor. With the high percentage vapor the anaesthetic is administered in large quantities and rapidly, while the reverse is the case with the low percentage, which is to be preferred.

The dangers of chloroform administration are usually circulatory and respiratory. Cardiac depression, if in gradual administration, is usually secondary to respiratory paralysis. It is primary in case a high percentage vapor has been given rapidly.

Death is likely to result from shock if the operation is commenced during light narcosis. Never proceed to the administration of chloroform without being prepared to meet emergencies as they arise.

ETHER AS A GENERAL ANAESTHETIC.

GEORGE E. FAY,
Detroit.

A careful physical examination and analysis of the urine should be a routine preliminary practice. Ether should not be used in cases suffering from lung or bronchial affections, nor in very young or aged individuals. It is contra-indicated when great excitement is to be avoided, or where deep narcosis is desired. It is not as satisfactory as chloroform in patients addicted to alcohol. In fatty degeneration, especially of the heart or kidney, ether is preferable to chloroform.

The stomach and bowels should be empty at the time of commencing the anaesthesia. This is accomplished by fasting, purgatives and, as recommended by some, lavage. Lavage is also frequently practiced immediately following the operation. An antiseptic mouth-wash and gargle is a good prophylactic against ether pneumonia.

The head should be at the level of the body, body loosely clad and the covering warm. Notice should be taken that no foreign bodies are in the

mouth. The condition of the pulse is noted. A quarter of morphine and one-one-hundredth of atropine are indicated in some cases, as a preliminary measure.

The pulse during the first sub-conscious stage is rapid and full, and continues so during the stage of excitement. As anesthesia becomes deeper the pulse becomes regular. The pupils at first are dilated and respond to light. In the stage of deep anesthesia the pupils are contracted, but still respond to light. Dilatation of the pupils with failure to respond to light in this stage is a danger signal.

As complete anaesthesia is attained, the respirations become deep and regular, the muscles completely relaxed and all reflexes are found wanting, those caused by stimulation of the terminals of the trigeminals being the last to disappear. In testing the reflex the cornea should never be touched with the finger. Brushing the eyelashes will suffice.

The methods of administering the ether, of handling the patients, of resuscitation, and of the after-care of the patient are given.

NITROUS OXIDE.

SAMUEL STRAITH, D. D. S.,
Detroit.

Anesthesia by nitrous oxide is becoming more popular. It is unfair to make a comparison between nitrous oxide, ether, or chloroform, as the latter two have been used in different conditions than the first. Statistics show a death in five or ten thousand when chloroform or ether has been used, but not a single death in hundreds of thousands with nitrous oxide. And more in favor of this is the fact that dentists, who administer the gas most frequently, have had no special education on aesthesia. A record of more than four hundred thousand shows not a death.

A single administration of gas will produce anesthesia lasting from twenty-five to fifty seconds, a sufficient time for innumerable operations. However, operations lasting from one to two hours have been performed under nitrous oxide anesthesia.

The author says that nitrous oxide should be employed, and with perfect safety, in all short operations, whereas now it is often the custom to administer chloroform or ether.

LOCAL AND SPINAL ANALGESIA.

LOUIS J. HIRSCHMAN,
Detroit.

The author speaks of the early stages of local analgesia and of the discovery of cocaine. This leads to the use of other analgesics, among which are carbolic acid in various strengths, ether sprays, ice packs, brine and other freezing agents, but which are of little value. Ethyl chloride is used somewhat generally for slight operations, but care must be taken not to freeze the water in the skin for too long a period. The production of local anemia, especially in the extremities, is often a valuable adjunct to chemically produced analgesia.

Schleich's method of infiltration with solution of salt, sterile water and cocaine, is very satisfactory.

Guaiacol, orthoform, tropococain, holocain, eucain B, and chloretone have their advocates, but the best all around analgesic agent is eucain B. Its analgesic power is as great as that of cocaine; it is less poisonous and less irritating; may be sterilized by boiling; and its solution keeps longer. For general infiltration a solution of eucain B, 1, salt, 8, and water, 1000, is advised. For deep injections a 2% to 5% solution is recommended.

Cocaine, encain B and chloretone solutions are used on mucous membranes.

In sub-arachnoid injections a one-half to one per cent. solution of sterilized eucain B, cocaine or chloretone may be used.

The author makes a plea for the more general use of local anodyne and analgesic agents, when minor operations are to be performed, such as opening abscesses, felons, buboes, etc.

WAYNE COUNTY MEDICAL SOCIETY
PROGRAM FOR MAY.

GENERAL MEETINGS.

Clinical and Pathological Evening.—Reports of cases and exhibition of specimens were made by Drs. N. T. Shaw, Max Ballin, J. N. Bell, W. F. Metcalf, Emil Amberg, and John Flintermann.

Historical Night.—This meeting was held in honor of the three Nestors of the Society—Drs. Geo. B. Russel, Morse Stewart and Herman Kiefer. Supper was served at 7 o'clock, followed by the regular meeting.

Dr. H. A. Hare, Philadelphia.—Remarks: (a) Upon Cardiac Disease Without Valvular Lesions; (b) The Treatment of Aortic Aneurism by Electrolysis; (c) The Influence of Alcohol in Infections.

Annual meeting, May 28.

SECTIONS.

Surgery—Dr. E. B. Smith, "Pistol Shot Wounds of the Head."

Dr. W. B. James, Eloise, "Presentation of Brain with Bullets Embedded."

Internal Medicine and Pathology—Dr. William Appelbe, "Chlorosis."

Obstetrics and Gynaecology—"Ectopic Gestation." General discussion.

Eye, Ear, Nose and Throat—Dr. E. L. Shurly, "Studies and Fragments in Laryngological Science."

At the meeting of May 28 the following officers were elected for the ensuing year:

President—Dr. C. G. Jennings.

Vice-President—Dr. A. N. Collins.

Secretary-Treasurer—Dr. Guy L. Connor.

Board of Directors—Drs. S. G. Miner, A. D. Holmes, H. O. Walker, Samuel Bell, J. E. Clark.

The different sections elected officers as follows:

Surgery:

President, Dr. Max Ballin.

Secretary, Dr. L. J. Hirschman.

Obstetrics and Gynaecology:

President, Dr. Florence Huson.

Secretary,

Eye, Ear, Nose and Throat:

President, Dr. E. L. Shurly.

Secretary, Dr. W. R. Parker.

Notice of an amendment to the Constitution to make the retiring President and Secretary-Treasurer members of the Board of Directors has been given. The idea is to utilize the knowledge gained by these two officers during their terms of service.

On May 14 the Society gave a supper in honor of its three Nestors—Drs. Geo. B. Russel, Morse Stewart and Herman Kiefer. The event was such a successful and happy affair that the idea has been suggested to make it a yearly function.

Great interest and enthusiasm have been manifested during the year in the Nottingham bill. This was especially marked when a rumor was circulated that the Governor would not sign the bill. A special meeting was largely attended and telegrams sent to every representative and to the senators of this district.

HUGH MULHERON, Secretary.

Meeting Notes.

THIRTY-EIGHTH ANNUAL MEETING OF
THE MICHIGAN STATE MEDICAL SO-
CIETY, HELD AT DETROIT, MICHIGAN,
JUNE 11TH AND 12TH, 1903.

MINUTES OF THE PROCEEDINGS OF THE HOUSE OF DELEGATES.

PRELIMINARY MEETING, WEDNESDAY, JUNE 10TH,
7:30 P. M.

1. Called to order by the President, A. E. Bul-
son, Jackson, after he had stated briefly the
duties and responsibilities of the members of the
House. Roll call showed a quorum present. Reg-
istration showed 53 of the 65 delegates in attend-
ance upon the meetings as follows:

Allegan Co.—M. Chase, Otsego.
Alpena Co.—D. A. Cameron, Alpena.
Bay Co.—J. W. Hauxhurst, W. Bay City.
Berrien Co.—W. L. Wilson, St. Joseph.
Branch Co.—G. H. Clizbe, Coldwater, Alternate.
Calhoun Co.—A. W. Alvord, Battle Creek.
Cheboygan Co.—C. B. Tweedale, Cheboygan.
Chippewa Co.—T. W. Kirby, Sault Ste. Marie,
Alternate.
Clinton Co.—J. E. Taylor, Ovid.
Delta Co.—R. S. Forsyth, Gladstone.
Dickinson-Iron Cos.—S. Edwin Cruse, Iron Moun-
tain.
Eaton Co.—J. B. Bradley, Eaton Rapids.
Emmet Co.—J. J. Reycraft, Petoskey, Alternate.
Genesee Co.—G. V. Chamberlain, Flint.
Gratiot Co.—G. F. Butler, Alma.
Hillsdale Co.—Bion Whelan, Hillsdale, Alternate.
Houghton Co.—C. H. Rodi, Calumet.
Huron Co.—D. J. McColl, Elkton.
Ingham Co.—A. D. Hagadorn, Lansing.
Ionia Co.—F. W. Braley, Saranac.
Iosco Co.—Frederick C. Thompson, E. Tawas.
Isabella Co.—James MacEntee, Mt. Pleasant.
Jackson Co.—D. E. Robinson, Jackson.
Kent Co.—J. A. McColl, D. E. Welsh, Grand
Rapids.
Lapeer Co.—H. McColl, Lapeer.
Livingston Co.—A. W. Cooper, Fowlerville.
Maconb Co.—W. Greenshields, Romeo.
Manistee Co.—J. A. King, Manistee.
Marquette Co.—F. M. Harkin, Marquette.
Mason Co.—W. H. Taylor, Ludington.
Mecosta Co.—L. S. Griswold, Big Rapids.
Midland Co.—A. D. Salsbury, Midland, Alternate.

Monroe Co.—P. S. Root, Monroe.
Montcalm Co.—H. L. Bower, Greenville.
Oakland Co.—M. W. Gray, Pontiac.
Ottawa Co.—B. B. Godfrey, Holland.
Sanilac Co.—H. W. Smith, Carsonville.
Schoolcraft Co.—J. M. Sattler, Manistique.
Shiawassee Co.—A. M. Hume, Owosso.
St. Clair Co.—M. Willson, Port Huron.
St. Joseph Co.—L. K. Slote, Constantine, Alter-
nate.
Tuscola Co.—P. J. Livingstone, Caro.
Van Buren Co.—G. D. Carnes, South Haven.
Washtenaw Co.—W. F. Breakey, Ann Arbor.
Wayne Co.—A. D. Holmes, D. Inglis, W. F.
Metcalf, G. W. Moran, E. L. Shurly, F. B.
Tibbals, H. A. Wright, Detroit.
Wexford Co.—C. E. Miller, Cadillac.

2. Report of the Council. Leartus Connor, De-
troit, Chairman. (See Journal, July, 1903, page
316). Accepted and adopted.

3. Report of the Michigan Representatives in
the House of Delegates of the American Medical
Association, H. O. Walker, Detroit, Senior Mem-
ber. (See Journal of the American Medical As-
sociation). Accepted and placed on file.

4. Report of Committee on Legislation, B. D.
Harison, Sault Ste. Marie, Chairman. (See Jour-
nal, July, 1903, page 323). Accepted and Dr.
Harison given a vote of thanks for his good
work.

5. Report of Auxiliary Committee of Commit-
tee on National Legislation. Emil Amberg, De-
troit. (See Journal, July, 1903, page 326). Ac-
cepted and placed on file.

6. Report of Committee to petition the Legis-
lature for an appropriation for the establishment
of a properly equipped sanitarium for the treat-
ment of the early stages of tuberculosis.

Dr. C. G. Jennings, Detroit, member of the
committee, reported that five meetings were held;
bill prepared and presented to Legislature; in-
troduced into House by Representative Denby, of
Wayne County, and referred to Committee on
Public Health; never taken from latter commit-
tee. Recommended that the campaign for the
passage of the bill be carried on through the var-
ious County Societies; asked that the commit-
tee be discharged and a new committee be ap-
pointed.

Report accepted; vote of thanks given to the
committee and committee discharged.

7. Miscellaneous business:

President appointed a Nominating Commit-
tee to nominate the four Vice-Presidents;

four Councilors for two years; four for four years; and four for six years; two Representatives in the House of Delegates, American Medical Association, for one year; two for two years; and to fix the place of meeting for 1904 (By-Laws, Chap. VI, Sec. 2): A. W. Alvord, Battle Creek; Hugh McColl, Lapeer; Geo. W. Moran, Detroit; L. S. Griswold, Big Rapids; W. L. Wilson, St. Joseph. Committee confirmed.

To expedite business, on motion of Dr. A. W. Alvord, Battle Creek, (duly carried), the President appointed a Business Committee, and a Committee on Finance, to which is referred the items of expense submitted by the Councilor of each district as incurred by him in the performance of his duties during the year, to be audited and acted upon. (By-Laws, Chap. VIII, Sec. 7).

Business Committee: J. B. Bradley, Eaton Rapids; J. A. King, Manistee; W. Greenshields, Romeo; A. M. Hume, Owosso; and P. S. Root, Monroe.

Committee on Finance: C. H. Rodi, Calumet; D. E. Robinson, Jackson; M. W. Gray, Pontiac; B. B. Godfrey, Holland; and D. E. Welsh, Grand Rapids.

Motion by Dr. A. W. Alvord, Battle Creek, that all questions, not matters of finances (by the By-Laws, Chap. VIII, Sec. 6, referred to the Council) be referred to the Business Committee without debate, amended by Dr. M. Chase, Otsego, that all new business be submitted in writing. Carried.

Motion by Dr. H. A. Wright, Detroit, that the County Society elect at the prescribed meeting an alternate delegate for each delegate elected. Referred to Business Committee.

Motion by a member that the House endorse the Proposed Special Congressional Charter for the American Medical Association. Referred to Business Committee.

Adjourned until 8.30 a. m., June 11th.

First Day, Thursday, June 11th, 8:30 a. m.

Reading of minutes of previous meeting accepted.

Unfinished Business:

Report of Business Committee, J. B. Bradley, Eaton Rapids, Chairman:

Recommended that the County Society elect an alternate delegate for each delegate elected. Carried.

Recommended the endorsement of the plan submitted for the proposed special Congressional Charter for the American Medical Association. Carried.

Miscellaneous Business:

Resolution offered by Dr. F. B. Tibbals, Detroit:

WHEREAS, The value of perfect sight and hearing is not fully appreciated by educators, and neglect of the delicate organs of vision and hearing often leads to disease of these structures; therefore, be it

Resolved, That it is the sense of the Michigan State Medical Society that measures be taken by boards of health, boards of education and school authorities, and, where possible, legislation be secured, looking to the examination of the eyes and ears of all school children, that disease in its incipency may be discovered and corrected.

(At the last meeting of the American Medical Association, held in New Orleans, May, 1903, the Section on Eye Diseases, and the American Medical Association as a whole, adopted the above resolution.)

Referred to Business Committee.

Resolution offered by Dr. D. E. Robinson, Jackson:

To amend By-Laws, Chap. VI, Sec. 2, which reads: "The President shall annually appoint a Nominating Committee of five from the House of Delegates, no two of whom shall be from the same Councilor District"—by striking out the word "President" and substituting the word "House of Delegates;" by striking out the words "annually appoint" and substituting the words "elect annually at its first meeting."

The section shall then read: "The House of Delegates shall elect annually at its first meeting a Nominating Committee of five from the House of Delegates, no two of whom shall be from the same Councilor District."

Referred to Business Committee.

Report of Committee on Finance, C. H. Rodi, Calumet, Chairman.

Committee found the accounts submitted by the Councilors correct, and recommended that the Secretary be instructed to draw upon the Treasurer for the amounts submitted, not to exceed \$25 for each Councilor, as provided by the By-Laws (Chap. VIII, Sec. 7).

Adopted and accepted.

Resolution offered by Dr. F. B. Tibbals, Detroit:

"We commend most heartily the clause in the

"Nottingham Medical Act" prohibiting the publication or circulation of obscene advertising matter, and urge upon the State Board of Registration in Medicine the strict enforcement of the extreme penalty allowed against all offenders."

Referred to Business Committee.

Report of the Business Committee, J. B. Bradley, Eaton Rapids, Chairman:

Recommended resolution offered by Dr. F. B. Tibbals in reference to the examination of the eyes of school children; recommended favorable action on amendment to the By-Laws offered by Dr. D. E. Robinson (which latter must lie upon the table for one day, By-Laws, Chap. XIV); and referred the resolution of Dr. F. B. Tibbals on the endorsement of a certain clause in the Nottingham Medical Act to the House without recommendation, as it was deemed to be of sufficient interest and importance to be considered and acted upon by the House as a Committee of the Whole.

Accepted and adopted.

It was then moved that the House adopt the resolutions offered by Dr. F. B. Tibbals. Carried unanimously.

Adjourned to June 12th, 12 o'clock m.

SECOND DAY, FRIDAY, JUNE 12TH, 12 O'CLOCK M.

Reading of minutes of previous meeting accepted.

Report of Nominating Committee: A. W. Alvord, Battle Creek, Chairman:

Committee nominated for:

1st Vice-President—Geo. C. Hafford, Albion.

2nd Vice-President—Jas. A. King, Manistee.

3rd Vice-President—J. B. Bradley, Eaton Rapids.

*4th Vice-President—

For Councilors:

Leartus Connor, Detroit, term to expire....1909

W. H. Haughey, Battle Creek, term to expire.1909

C. B. Burr, Flint, term to expire.....1909

W. T. Dodge, Big Rapids, term to expire....1909

A. E. Bulson, Jackson, term to expire.....1907

S. I. Small, Saginaw, term to expire.....1907

B. H. McMullen, Cadillac, term to expire....1907

T. A. Felch, Ishpeming, term to expire.....1907

Geo. D. Carnes, South Haven, term to expire 1905

D. Emmet Welsh, Grand Rapids, term to

expire1905

M. Willson, Port Huron, term to expire....1905

*Name here given incorrect—no such member of the Society—place to be filled by the President. W. E. Chapman, Cheboygan, appointed.

H. B. Landon, Bay City, term to expire....1905
Representatives in the House of Delegates,
American Medical Association:

H. O. Walker, Detroit, term to expire.....1905

V. C. Vaughan, Ann Arbor, term to expire..1905

W. K. West, Houghton, term to expire.....1904

C. B. Stockwell, Port Huron, term to expire.1904

Place of meeting for 1904, Grand Rapids.

Names to be submitted to the Secretary of State from which the Governor may choose five as members of the Michigan State Board of Registration in Medicine in accordance with the provisions of the Nottingham Medical Act (See Journal, July, 1903, page 328; also section 1 of act):

J. B. Griswold, Grand Rapids.

Geo. E. Ranney, Lansing.

H. B. Osborne, Kalamazoo.

H. McColl, Lapeer.

W. H. Sawyer, Hillsdale.

D. K. Black, Greenville.

W. L. Wilson, St. Joseph.

C. S. Cope, Ionia.

P. S. Root, Monroe.

L. D. Knowles, Three Rivers.

G. W. Moran, Detroit.

L. S. Griswold, Big Rapids.

Jas. B. Martin, Traverse City.

F. A. Towsley, Midland.

A. D. Holmes, Detroit.

As it appeared that Dr. J. A. King, Manistee, and Dr. J. B. Bradley, Eaton Rapids, nominated for the offices of Second and Third Vice-Presidents respectively, are members of the House and therefore ineligible to hold the said office (Constitution, Art. VIII, Sec. 3), it was moved that the report be referred back to the Nominating Committee and that the committee nominate two other names to represent the districts in question.

Motion supported and carried.

On motion of Dr. E. L. Shurly, Detroit, (duly seconded) report, with the exception of the two names mentioned, was accepted and adopted.

On motion of Dr. A. W. Hume, Owosso, (carried) the House of Delegates resolved itself into a Committee of the Whole for the purpose of making its own nominations. (By-Laws, Chap. VI, Sec. 5.)

On motion of Dr. L. S. Griswold, Big Rapids, supported by Dr. H. L. Bower, Greenville, *Dr. Chas. S. Cope, of Ionia*, was nominated for the office of *Third Vice-President*. Carried.

On motion of Dr. J. A. King, Manistee, supported by Dr. E. L. Shurly, Detroit, *Dr. W. S. Walkley, Grand Haven*, was nominated for the office of *Second Vice-President*. Carried.

On motion of Dr. A. W. Hume, Owosso, the amendment to the By-Laws offered by Dr. D. E. Robinson, Jackson, and favorably recommended by Business Committee, was taken from the table. Its adoption moved and carried.

On motion of Dr. E. L. Shurly, Detroit (duly carried) the Session of the Annual Meeting was extended to cover three (3) days.

At the request of Dr. Henry B. Baker, Lansing, the following resolution was offered:

RESOLUTION FOR APPOINTMENT OF COMMITTEE ON
VITAL STATISTICS.

WHEREAS, The American Medical Association at its last session passed the following resolution among others relating to vital statistics:

Resolved, That the American Medical Association strongly urges on the State Medical Societies that special committees be appointed to advocate and secure the passage of satisfactory registration laws in States that do not at present possess them, that County Societies support and aid in the execution of such laws as far as possible, and that physicians individually, throughout the United States, endeavor to promote the accuracy and value of the mortality statistics by giving clear and definite statements of causes of deaths on certificates of death; therefore, be it

Resolved, That the Michigan State Medical Society heartily welcomes the action of the American Medical Association in commending this matter to its attention, and hereby constitutes a permanent Committee on Vital Statistics, to consist of three members appointed by the President, to carry out the above action, and more especially in regard to the passage of a satisfactory law for the registration of births in this State, the registration of deaths having already been placed upon a proper footing through laws passed at the instance of this Society;

Resolved, That it be made the duty of this committee to study the essential requirements of the registration of births, to interest the County Societies and secure their coöperation, to report a draft of a bill at the next annual session of this Society which, after approval, may be introduced in the Legislature of 1905 and enacted into law, and to take such other action as may promote this result.

Carried.

Adjourned sine die.

A. P. BIDDLE, Sec'y.

MINUTES OF THE PROCEEDINGS OF
THE SOCIETY IN GENERAL MEETING.

Thursday, June 11th, 10 a. m.

1. Called to order by the President, A. E. Bulson, Jackson.

2. Prayer. Rev. Edward H. Pence, Detroit.

3. Address of welcome. City Controller, F. A. Blades, Detroit.

4. Report of Committee on Arrangements. H. O. Walker, Detroit, Chairman.

5. Address of the President, A. E. Bulson, Jackson. "Reorganization of the Medical Profession of Michigan." (See Journal for July, 1903, page 260).

6. Oration on Surgery. F. W. Robbins, Detroit. "The Surgeon: His Opportunities and Responsibilities." (To be published in the Journal).

7. Miscellaneous Business:

(a) Nominations for President.

On motion of Dr. Flemming Carrow, Ann Arbor, seconded by Dr. Donald Maclean, Detroit, Dr. William F. Breakey, Ann Arbor, was nominated for the office of President.

On motion of Dr. H. A. Wright, Detroit, duly seconded, the nominations for the office of President were closed. Carried.

Adjourned to Friday, June 12th, 11 a. m.

Friday, June 12th, 11 a. m.

1. Unfinished Business:

Resolution offered by Dr. Donald Maclean, Detroit:

Resolved, "That the Michigan State Medical Society hereby express its enthusiastic admiration and sincere thanks for the able, loyal and important services rendered in the late Legislature in the matter of medical legislation by Dr. B. D. Harison, of Sault Ste. Marie."

Seconded. Carried.

On motion of Dr. Donald Maclean, Detroit, (duly carried) the Secretary was instructed to send a message of sympathy to Dr. P. D. Patterson, ex-President of the Society, who is dying from an incurable affection of the throat; also a message of sympathy to Dr. L. G. North, of Tecumseh, on account of the recent death of his eldest son.

On motion of Dr. A. E. Carrier, Detroit, (duly carried) the President appointed a committee, consisting of A. E. Carrier, Detroit; Ralph H. Spencer, Grand Rapids; and Jas. F. Breakey, Ann Arbor; which shall gather for the State Society reports as to the prevalence of Venereal Diseases in the State of Michigan.

On motion of Dr. V. C. Vaughan, Ann Arbor, (duly carried) a vote of thanks was extended to the members of the Wayne County Medical Society for their hospitable entertainment of the Society.

2. Report from the House of Delegates. A. P. Biddle, Detroit, Secretary. (See minutes of Proceedings of the House of Delegates in this issue of the Journal, page 312)

3. Oration on General Medicine. I. H. Neff, Pontiac. "The Role of Suggestions in Therapeutics." (See Journal for July, 1903, page 274).

4. Oration on Obstetrics and Gynecology. F. A. Grawn, Munising. "Obstetrics in General Practice." (To be published in the Journal).

Miscellaneous Business:

(a) The report of the Nominating Committee, through Dr. A. W. Alvord, Battle Creek, Chairman, showed that Dr. William F. Breakey was duly elected President of the Michigan State Medical Society.

Adjourned sine die.

A. P. BIDDLE, Sec'y.

EXTRACT FROM OFFICIAL MINUTES OF THE SESSIONS OF THE COUNCIL, HELD DURING THE ANNUAL MEETING OF THE STATE SOCIETY.

Treasurer reported cash on hand, \$1,065.62.

Chairman of Committee on County Societies reported 58 societies organized, embracing in all 78 counties, and recommended that a uniform method be established of transacting business between the parent society and its branches; namely, uniform receipts, uniform order books, uniform reports, transfer cards, etc. Carried.

The Editor of the Journal reported the subscription list of the State Society as 1,712, and recommended that all articles for publication be submitted to the Publication Committee for approval before being published. Carried.

The Chairman, Dr. Leartus Connor, submitted his report to the House of Delegates, which was accepted and adopted as the report of the Council.

Three cases of grievances were filed with the Council, which received careful attention at the

hands of the Judicial Committee and were referred back to the counties in which they arose, with recommendations.

Moved that no name other than the Editor's appear on the Journal as connected with the publication thereof. Supported and carried.

Moved that the expenses in postage, stationery, express and other necessary expenses of the Secretary of the Council be presented as a bill to the Society. Carried.

The House of Delegates elected the Council, as follows:

For 6 years—Leartus Connor, W. H. Haughey, C. B. Burr, W. T. Dodge.

For 4 years—A. E. Bulson, S. I. Small, B. H. McMullen, T. A. Felch.

For 2 years—Geo. D. Carnes, D. Emmett Welsh, Mortimer Willson, H. B. Landon.

The Council then organized with Dr. Leartus Connor as Chairman and Dr. W. H. Haughey as Secretary.

The Chairman appointed committees for the year as follows:

County Societies and Judicial Matters—W. H. Haughey, T. A. Felch, Geo. D. Carnes, A. E. Bulson.

Publication and Supervision of Articles—C. B. Burr, H. B. Landon, D. Emmett Welsh, Mortimer Willson.

Finance—W. T. Dodge, B. H. McMullen, S. I. Small, Leartus Connor. W. H. HAUGHEY,
Secretary of Council.

COUNCIL OF MICHIGAN STATE MEDICAL SOCIETY, ITS OPERATIONS FOR 1902-03.*

LEARTUS CONNOR, Chairman.

This first Council of the Michigan State Medical Society was elected for one year, leaving to you the responsibility of electing its successor for six years. Its duties are numerous, varied and continuous, and upon their faithful performance rests the success or failure of this organization. Formerly officers could be elected, who straightway forgot their appointment till near the annual meeting, and yet the latter suffered little loss; now each day's work must be done and intelligent consideration given important questions or disaster is inevitable.

Our organic law lays upon the Council the following specific duties:

First—The organization of branches of the State Society in every county.

Second—The constant promotion of the growth of such branches.

Third—The management of the Society's publications and selecting a Secretary-Editor.

Fourth—The care of the Society's finances—and choosing a Treasurer.

Fifth—The adjustment of differences between individuals, or branches, or both.

The Council is composed of twelve members representing the twelve congressional districts. As each district approximately represents two hundred thousand population, the number of counties in each varies with the density of population from one to sixteen.

Thus the First has but one county, Wayne—Councilor, Leartus Connor, Detroit.

The Second has Jackson, Lenawee, Monroe and Washtenaw—Councilor, N. H. Williams.

The Third has Branch, Calhoun, Eaton, Hillsdale, Kalamazoo—Councilor, Wm. H. Haughey, Battle Creek.

The Fourth has St. Joseph, Allegan, Barry, Berrien, Cass, Van Buren—Councilor, G. W. Lowry, Hastings.

The Fifth has Ionia, Grand Rapids and Ottawa—Councilor, J. B. Winery, Grand Rapids.

The Sixth has Genesee, Ingham, Livingston, Oakland—Councilor, C. B. Burr, Flint.

The Seventh has Huron, Lapeer, Macomb, Sanilac and St. Clair—Councilor, O. Stewart, Port Huron.

The Eighth has Clinton, Saginaw, Tuscola and Shiawassee—Councilor, S. I. Small, Saginaw.

The Ninth has Benzie, Lake, Leelanaw, Manistee, Mason, Muskegon, Newaygo, Oceana and Wexford—Councilor, B. H. McMullen, Cadillac.

The Tenth has Alcona, Alpena, Aranza, Bay, Cheboygan, Crawford, Emmett, Gladwin, Iosco, Midland, Montmorency, Ogemaw, Oscoda, Otsego and Presque Isle—Councilor, H. B. Landon, Bay City.

The Eleventh has Antrim, Charlevoix, Grand Traverse, Gratiot, Isabella, Kalkaska, Mecosta, Messaukee, Montcalm, Oscoda and Roscommon—Councilor, W. T. Dodge, Big Rapids.

Twelfth has Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Isle Royale, Keewenaw, Luce, Mackinaw, Marquette, Menominee, Ontonagon and Schoolcraft—Councilor, Theo. A. Felch, Ishpeming.

These districts were divided into groups of three and a Vice-President elected from each, in

order that he might aid the Councilors in organizing and developing the branches. Thus, First Vice-President J. C. Willson, of Flint, has charge of the first, sixth and seventh districts (those nearest his residence.) Second Vice-President A. W. Crane, of Kalamazoo, has charge of the second, third and fourth districts (nearest his home.) Third Vice-President W. K. West, of Calumet, has charge of the eighth, tenth and twelfth districts. He organized Houghton county which has forty-five paid up members and has served as its Secretary. Houghton was the fourth county to secure a charter from the State Society. Since the entire Upper Peninsula is completely organized, long since, it is evident that the profession of that region know of good things other than copper or iron mines. Fourth Vice-President H. B. Garner, of Traverse City, has charge of the fifth, ninth and eleventh districts.

At the head of the organizing corps is President A. E. Bulson. Simple justice says that he was prodigal of his time, physical and mental equipment, and of his money, in responding to calls for help from any portion of the field. Besides he was constantly seeking opportunities to advance the interests at stake. His genial address, horse sense, tact and persistence contributed greatly to our success.

Lastly, as the assistant of all is the accomplished, "old reliable" Secretary-Editor, A. P. Biddle. He kept his eyes on every move in the organizing process, his ear open to every cry of doubt or perplexity; his hand stretched out to help; his head to council; his voice to encourage. To plant an organization upon a foundation as solid as the Laurential Hills of the Upper Peninsula, he has toiled and planned for nearly two years. Not least of his native gifts is his ability to select the best leaders and teachers for the work.

ORGANIZATION OF BRANCHES.

The problems of organization given the Council for solution were novel, because no similar body of men ever had such powers and such obligations.

First—Every doctor of proper education, in good repute with his fellows, must be brought into the organization. If well behaved, he was taken in directly; if ill-mannered he must be converted and then organized. The opposition to this simple proposition was astounding; first on the part of those who regarded themselves at the top, and second from those who knew they

*Report to House of Delegates, June 10, 1903.

were at the bottom. But a fair statement of the aims, spirit and methods of the organization always prevailed when a real hearing could be had.

Second—Every doctor must have the same rights, responsibilities and obligations as every other. This was so good a proposition that belief therein was difficult, but an honest hearing resulted in the conviction that only thus could all doctors be made factors in a single organization.

Third—Prejudice, Suspicion, Cliqueism, Indolence, "a holier than thou feeling," each was a lion in the way. Again a frank presentation cleared the atmosphere and brought friends to the movement, and each realized that the largest personal reward would be his if he joined forces with all his fellows.

Fourth—The problems of one county were different from those of another, each had to be studied *de novo* and solved by a method peculiarly its own.

Fifth—There was skepticism as to the possibility of forming any real organization of the entire profession. Many of our best friends looked upon the attempt as a fanatic's dream. But here again a hearing under favorable conditions made new friends.

Sixth—Strange to say not a few physicians avowedly say that they do not desire an organization of the entire profession. They desire membership only in what they term the "cream" of the profession; what becomes of the rest is a matter of indifference to them. The correctness of our proposition showed itself when it was able to convert even such as these.

Seventh—Our method called for organization by personal effort. From him who understood and believed, the good news must be carried to him who did not understand and disbelieved. How this shall be compassed the great State of Michigan?

The results of eleven months' work are before you; showing the success we have had in solving these and allied problems. It will be recalled that adjournment at Port Huron left the Society without any legislative body. This body must be composed of delegates from branches of the State Society and not one existed. To-day we have fifty-eight branches, including seventy-eight counties. This House of Delegates represents the State of Michigan as no body of doctors ever represented any state before. The five counties still without require additional time and kindly persuasion to join our ranks.

However, we shall not rest till every foot of Michigan and every doctor is organized—it can be done and it will.

The representatives of seventy-eight counties here meet to consider common interests, under conditions favorable to full deliberation and wise action. The eyes of forty-five hundred doctors and three millions of people are fixed upon you, and the friends of medical organization eagerly await the outcome.

Your work will best stand the test of experience, if taken in harmony with the following principles:

First—A voluntary organization can only be effected and maintained by affording its members more profit and pleasure within than without.

Second—The greater the profit and pleasure to each member the stronger the organization.

Third—A method must be provided for carrying a living knowledge of such an organization to each whom it is desired to enroll.

Our Constitution and By-Laws were founded upon these principles. If they fail of exhausting the possibilities under existing conditions, it is for you to supply the oversight. It will be observed that profit and pleasure is made to depend upon the wholesome activity of every officer and every member of the organization. The organization like that of a healthy body is alive all the time. It must be fed, exercised, have work and play, and every cell harmonize with every other cell.

This meeting will fail of its best result unless to every member present come the largest opportunity to increase his knowledge of the facts and principles of medicine, to stimulate his ambition for better results from his work; to inculcate kindly feeling for his fellow workers; to augment his professional equipment in all directions. The same may be said of every meeting of every branch. Hence a fearful responsibility rests upon the officers who arrange for these meetings and in general are entrusted with the promotion of organized activity. Experience has shown that those scheming for official positions sometimes fail to show evidence in their administrations of being over weighted with such a sense of responsibility.

You will note that the Council is especially commissioned (1) to carry to the individual doctor a knowledge of the fact that a real gold mine awaits him in the securing of a life membership in the State Society, (2) to encourage each to do his own work better each day, (3) to promote

better work among his fellows, and (4) to make for peace.

The Council's first meeting was held at the Russell House in Detroit, July 9th, 1902. Nearly all the members were present, and with them met President Bulson, Vice-Presidents Willson and West, the Secretary, A. P. Biddle, and the Committee on Organization. The latter finally completed their work and turned it over to the officers as a guide in performing their duties. Leartus Connor was chosen Chairman of the Council and Wm. H. Haughey, Secretary. Together, the entire field was studied, and such methods of procedure as seemed wise adopted.

In general each Councilor was directed to familiarize himself with all doctors in his district. From these he was to select the leaders and arrange for a meeting at such time and place as they deemed wise for the purpose of organization. At this meeting he was present, to verbally explain the conditions needful to form a branch of the State Society, to smooth asperities, if such existed, remove misunderstandings, and above all infect the assembled physicians with his own unselfish spirit and enthusiasm for an organization which should live in every doctor in the state, and pulsate with similar life in every other of the United States. An organization being effected, application was made for a charter as a branch of the State Society. This application, being approved by the Councilor, was sent to the Secretary with the dues of the members and their names. In return a charter was mailed the local Society.

If desired, one or more Councilors, the President or Secretary, or all were invited to aid a Councilor in organizing a special county. These helpful visits were numerous, though they were made at the sacrifice of the railway expenses, hotel bills, loss of home business, to an extent that would surprise those unfamiliar with the facts. It is not an exaggeration to say that they amounted to many hundreds of dollars, yes thousands. Then, as now, each knew that his only reward was the consciousness of promoting a work of incalculable value to the profession.

However, such sacrifices should not be asked longer than it may be possible for the Society to pay for the actual outlay of the Council in the performance of its duties. The twenty-five dollars now allowed will suffice for some districts, but it is far too little for others. Yet, in all, the work must be done, so that interest may be maintained in the branches and the largest number of dues flow into the State Society treasury.

These dues are the financial support of the State Society. We must keep interested the individual doctor, on the outskirts of towns, at cross roads, in little hamlets, if the Society reaches its full development.

Prosecuted along its present lines, our seventeen hundred and twelve doctors will gradually swell to twenty-five hundred, three and four thousand in the near future.

The second Council meeting was held Jan. 10th, in Detroit. Every member was present, plus the President, Secretary and Treasurer.

From actual experience the members had learned much and so were able to unite on better working plans in all directions. The vast amount of business presented was referred to three committees representing the most important functions of the Council. The conclusions of these Committees were usually adopted by the Council. The salary of the Editor-Secretary was fixed at fifty dollars per month, plus twenty per cent. on money collected from advertisement, and A. P. Biddle was elected for one year.

The salary of the Treasurer was fixed at twelve and one-half dollars per month, and Chas. E. Hooker, of Grand Rapids, elected for one year.

The thoughtful student sees an herculean task in perfecting and maintaining our organization, and regards it wise to courteously decline invitations from enthusiasts to neglect our own work and assume theirs. The duty of the hour is to attend strictly to our own business of organizing every doctor and keeping him organized, by cultivating in him a regular habit of work and play with fellow doctors in his own county.

PUBLICATION OF SOCIETY.

The Council was directed to establish and conduct a medical journal for the publication of the work of the annual sessions of the State Society and meetings of the several branches, and for the constant instruction and stimulation of the individual physician. As soon as possible arrangements were made for this publication, and the first number issued last September, by the Secretary-Editor, A. P. Biddle. Always modest and diffident of his powers in untried fields he undertook the task with hesitation. But all of you are witnesses to his unusual success. Lack of abundant funds has crippled his work, but enough is in evidence throughout the ten numbers issued, to indicate the right man in the right place. Upon him personally the Council placed both the editorial and business management, believing that he could deal better with those whose

help he might desire from the standpoint of authority, and the Council would have less difficulty in finding the source of any especial objectionable action.

Neither Dr. Biddle nor the Council claim perfection for the Michigan State Medical Journal, but hope it bears evidence of such knowledge, industry and skill, as might be expected from those to whose care it was committed. With larger income, a better journal can be had, and a larger income awaits the development of the organization.

Especially does increase of circulation enhance the value of advertising, and so the growth of each branch makes possible a better journal, first by the money each member pays the State Society, and second by the added value to the advertising pages of an increased circulation.

It is desirable that each branch should send the Journal some notice of each meeting, making it long or short, according to matters of general interest discussed or acted upon. The Council hopes that each delegate will remember this during the year and remind the officers of his Society of this portion of their duties. It will not be expected of the Journal to publish long papers from each local Society, but it can always publish brief abstracts, giving the pith of the paper, and such other papers as are of especial interest and impossible to abstract.

To a degree almost unequaled, our Journal is filled with original matter from front to back of each issue.

It is worthy of mention that the scientific reputation of the Journal can be favorably improved by such selection of chairmen of sections and such orators as will provide the latest and best obtainable material for their meetings.

The increase of suitable advertising is desirable. Each delegate and each member of the Society can aid greatly in this direction without going out of his daily rounds. Thus, when a traveling agent asks you to prescribe his firm's preparations, turn to the Journal and see if said firm advertises therein. If not, call the agent's attention to the fact that by placing an advertisement therein, his firm would reach at least two thousand doctors in Michigan monthly, and that each of these is a part owner in said Journal. Experience has shown that such a move has resulted in the firm's seeking from Dr. Biddle advertising rates in the Journal.

A committee of the Council has the matter of publication constantly in hand, studying ways and means for its improvement in all respects. Just as

another committee has the finances in charge, and another the branches.

A regular edition of the Journal has been issued somewhat in excess of the combined membership of the Society, the advertisers, and regular exchanges, in order to fill up back sets for such new members as so desired. Even with liberal provision in this way some of the earlier numbers are almost exhausted, and impossible to supply. As they mark an epoch in medical society development, every progressive physician prizes them highly.

FINANCE OF STATE SOCIETY.

The financial problems presented the Council were numerous and complicated.

First—The Society reduced its annual dues from three to two dollars, and ceased collecting the initiation fee of two dollars.

Second—The Society started a Journal at a cost from three thousand dollars and upwards per year.

Third—All persons having charge of either the Journal or its management were novices—compelled to learn practically a business new to them and the Society. Even the Council had to devise an alphabet by which it might make words to express ideas quite novel to it.

The success attained in the solution of these and allied problems, may be seen in the following statement.

Receipts,—

Cash on hand at 1902 meeting	\$ 440 68
Collected at 1902 meeting.....	909 00
Collected from individuals, since annual meeting	507 00
Collected from branches, since annual meeting, 1902	2,611 15
Collected from advertisements	1,225 61

Total receipts

Disbursements—

Journal expense	\$2,254 15
Secretary—honorarium for 1902	300 00
Secretary—salary, 11 months to June 1st.	550 00
Treasurer—honorarium for 1902	150 00
Treasurer—salary, 11 months, to June, 1903	137 50

Council expense—

G. W. Lowry—expenses as Councilor....	25 00
Expense of January Council meeting....	126 57
Programme Committee expense	63 73
Reporting of 1902 meeting	200 00
Commission on advertisements	234 03
Printing, binding and stationery.....	447 34

Refunding (overpayments, county societies, initiation fees)	124 00
Delivering bound transactions	9 10
Incidentals—	
Michigan Passenger Agent	6 00
Bank Exchange	1 00
Total disbursements	\$4,628 42

ASSETS.

Cash on hand June 1st	\$1,065 02
Advertising contracts	1,141 04
Blank charters, forms of application, etc.,	

All bills have been met promptly, so that the credit of the Society remains A1.

During the coming seven months must be met the monthly bills for issuing of the Journal; the expenses of the present meeting, the stipend of the Councilors (unless they choose to donate it), the monthly salaries of the Secretary, Editor, and Treasurer; the bills for postage and stationery, and incidentals.

It is clear that the closest economy will be needful to promptly meet obligations. This the Council has practiced in the past, and advises the same of the Society.

To some the postage, stationery and printing bills outside the Journal may seem excessive, but when it is recalled that constitutions and by-laws, for both state and branch societies, were printed and distributed; that their preparation called for much correspondence on the part of the several architects of the same; that questions of the most varied nature were constantly arising as the effort was made to organize along the new lines and adjust them to the points of departure from the old; that others than officials were desirous of getting information on certain points, and that others, outside of Michigan, were writing in large numbers for facts and suggestions in their own work, the wonder is that the work was done for so small a sum. It must not be forgotten that the members of the Council were engaged in a nearly constant correspondence along these same lines, and using their own stationery and supplying postage, so that the cause of organizing the branches received numerous and substantial contributions to an extent that will never be known. This is the more to be regretted, as it would illustrate the devotion of those who constructed the fabric known as the Michigan State Medical Society, and show that the underlying secret of its success was this unselfish spirit. This spirit continued, backed by strenuous effort and horse sense, is requisite to complete the structure, whose foundations have been laid in those

qualities of men that make for lasting and thorough organization.

The expense of printing and distributing the volume of transactions for 1891 was \$1,015.35. The Journal expense since last meeting was \$2,254.15. The money actually collected from advertisements was \$1,225.61. If this be taken from the expense of the Journal, we find that the Journal was supplied to the society for \$1,028.54, or about the same as the cost of the volume of transactions for 1891. It is left for each to decide the advantage of the change to the Society. If the Journal is the more valuable, it still costs one dollar less to each member yearly, or for the seventeen hundred members it nets a saving of an equal number of dollars. To this must be added the saving of the two dollars initiation fee paid by new members; 1,200 members at \$2 each = \$2,400. Clearly the change has left with the profession more dollars by four thousand, to use in other directions.

JUDICIAL ACTION.

In most cases of professional differences a frank discussion with the interested parties has sufficed to rectify such disputes. In one instance of an old member of the State Society, who had made himself unwelcome to the great majority of the physicians of his county, it seemed necessary to investigate the reasons therefor, and ask him to present to the Council his view of the case. Meantime a branch society was organized in the county and pursue its regular way.

The genius of our organization is essentially *peace*, and in it there is absolutely nothing to quarrel about. Farther its method is for the local branch to settle all disputes if possible, only bringing the case to the District Councilor when it has exhausted its resources, and to the Council when the Councilor has tried and failed.

MISCELLANEOUS.

Our organization aims to keep with it till death all who become members. In accord with this it has provided for a roll of honor, to include such who have won distinction by faithful professional work, and are prevented from active participation in society work by the disabilities of age or other infirmity. The practical application of this idea is stated in the Constitution—Art. IV, Sec. 5. In accordance therewith the Council nominates for election by you the following Nestors in the profession, who in the past did so much to promote its development. Time forbids even a brief statement of the rea-

sons for placing them at the head of the list of our honorary resident members. Some of you know all of them, all of you know some of them, so that you can act intelligently, and feel that in their election you are conserving the vigor of the Society, and express the fact that to us "the hoary head is a crown of glory" when it marks a life of manly honor and professional attainment. The names are:

S. S. French, Battle Creek.
John S. Caulkins, Thornville.
John R. Bailey, Mackinac.
Jabez Perkins, Owosso.
Morse Stewart, Detroit.

Under authority of the same article of the Constitution, Sec. 6, the Council nominates for honorary membership:

Henry M. Hurd, Baltimore, Md., known everywhere for his superb work in connection with the Pontiac Insane Asylum, and the management of Johns Hopkins Hospital, and superior attainments in all that pertains to mental diseases.

Frank Billings, of Chicago, late president of the American Medical Association, indefatigable worker in the organization of the profession of the United States, a forceful teacher and writer.

LECTURERS TO THE BRANCHES.

To assist the development of the branches, the Council directed the President to appoint a lecturer for each congressional district—the best man who would agree to respond to a request from any branch within his district for a lecture; to hold a clinic or read a paper at a time and place agreed upon. As announced on page 241 of the Journal, seven such appointments have been made. Already some of the branches have availed themselves of this assistance, supplied them without cost. Besides increasing the interest in meetings of the branches, this provision absorbs some of the surplus activity existing in the several districts, as it is stipulated that teachers in medical colleges are debarred from such appointment. These are already advertised and can be invited as any branch may desire. The value of outside help from persons having especial experience along certain lines, the value of a new face, a different voice, a fresh method of teaching, is well known and extensively utilized by the more progressive societies. All may not be able to visit a celebrated teacher, but all can get the benefit of such visit if he speak before their County Society. Wayne county has had visits from five men, experts along certain lines, during the past

season, to the profit of all who heard their statements and saw their exhibits. They formed a post-graduate corps. Every branch may not do as much in the line of post-graduate instruction, but it can do something, and it is the business of the Council to aid in making this little as large as possible. Our government does not provide, as does the German, a post-graduate school of experts to travel from place to place, instructing the physicians in the latest additions to medical art. but the Michigan State Medical Society can increase its provision along the same lines till it gives every doctor in Michigan some instruction in the more difficult parts of medical progress.

This makes the branches, and so the State Society, of greater interest and value to every member.

From actual experience, the Council believes that when fully understood, every physician will promptly accept the invitation to join the Michigan State Medical Society and heartily engage in its activities.

Granting this, the problem presents, "How can they be made to understand the proposition?"

In seeking a solution it must be remembered that the organization, maintenance and growth of the branches result from a proper education of the individual doctor. Who are the teachers? Clearly (1) the President; (2) the four Vice-Presidents; (3) the twelve Councilors; (4) the Editor-Secretary; (5) the Treasurer; (6) the fifty-eight Presidents of branches, the fifty-eight Secretary-Treasurers of branches; the fifty-eight Vice-Presidents of branches; (7) lastly and most important, the seventeen hundred and twelve paid-up members. If, during the coming year, each of these physicians persuades another doctor to join the State Society, the work will be complete. Then permanence is assured by each continuing similar activity during each passing year.

The Council desires to call attention to another fact, viz.: that many doctors, weak perhaps rather than wicked, but at any rate disreputable, under the personal teaching of members of the branches, have abandoned past ways, conformed to those of the State Society, been accepted by their branch as members, and since led lives creditable to both themselves and the profession.

Lastly the Council desires to emphasize the fact that such results as it reports, and others which it hopes for, are attained only by a spirit of self-sacrifice, a desire to help every fellow-doctor to help himself, for the sake of himself, for the profession and humanity.

SUMMARY.

The Council of the Michigan State Medical Society has held two meetings previous to this during the eleven months of its service.

Second—The problems to be solved were novel and intricate, calling for closest study and exercise of good sense. They varied in different counties, with different old medical societies, and medical institutions. Successful solutions attended a frank presentation of the principles of organization.

Third—Seventy-eight counties have been organized into fifty-eight branches, numbering seventeen hundred and twelve members, all paid up—a net gain during the year of twelve hundred members.

Fourth—There has been a large increase of professional activity and harmonious co-operation of individual members and diverse interests, and a *decrease of disintegrating forces*.

Fifth—On September, 1902, the Council started a Journal under the management of Editor-Secretary A. P. Biddle. Ten numbers have been published, and speak for themselves. Its *net* cost has about equaled that of the published transactions for the previous year. It has published the work of the last annual meeting, many papers and discussions from the branches, all news items it could secure from members, the Constitution and by-laws of both State and branch societies, and served as a friendly messenger, making monthly trips between members and branches, bearing professional aid and kindly good cheer.

Sixth—Starting with a cash balance of \$440.63, it ends with a cash balance of \$1,065.02, and all bills paid. This includes the extra expense of organization, with large bills for printing and distributing copies of Constitution and By-Laws, both of the State Society and its branches, in form separate from the Journal; for postage and stationery, and many other things inseparable from the development of so large an enterprise. As the rest of the year brings large expenses and small receipts, rigid economy is necessary at this meeting.

Seventh—In its judicial capacity it has little to report. Fuller understanding between disputants has generally resulted in healing breaches of good manners. Its efforts to promote peace have been uniformly successful.

Eighth—It has given Michigan a genuine leadership in the organization of the profession of the United States. Its spirit and methods have been eagerly sought after and largely taken as a guide by organizers in other states.

Lastly—The Michigan State Medical Society is now a living being demanding for its growth and development regular feeding, exercise and raiment; its officers are chosen because able and willing to supply the wants of the Society; its members must respond to calls upon them to give out as well as take in; all must be alert as are the cells of the human body, that growth and nutrition may be so vigorous as to make the Society immune to the hordes of parasites that seek its life blood, or the malignant, infectious microbes that beset it on every side.

REPORT OF THE COMMITTEE ON LEGISLATION AND PUBLIC POLICY.

The proposed amendments to the present medical act, outlined in the committee's report presented to the Society last year at its Port Huron meeting, and adopted by the Society, were formally incorporated in a bill by the Legislative Committee of the State Board of Registration in Medicine, of which your chairman is a member, and this bill was introduced in the House of Representatives January 30th last, by Dr. D. M. Nottingham, of Lansing, member for the Ingham district, and referred to the Health Committee, of which he was chairman. Previous to its introduction by Dr. Nottingham, a draft of the bill had been submitted to the deans and secretaries of the several medical schools in the state, and other prominent members of the profession interested in medical legislation, and had received an almost unanimous indorsement. This bill has been passed practically unchanged by the legislature and received the signature of the Governor on the 4th inst. The leading feature of the amended bill, which will become law ninety days from the adjournment of the legislature, relates to the raising of the standard of preliminary and medical education, and its control absolutely by the State Board of Registration in Medicine, and the adoption therewith of the state examination test as a sole qualification for obtaining a certificate of registration or license in the future in this state. Under the medical act of 1899 a candidate for a state license was obliged to qualify for same either through the possession of a diploma from a recognized and approved college, or by taking the board's semi-annual examination and obtaining 75 per cent. upon specified subjects. Absolutely no qualification of preliminary or medical education was necessary to qualify for admission to this examination. Under the present amendments no one can take the board's examination, the sole

qualification for license, unless qualified through an approved and standard diploma from a listed school, academy, college or university, and a medical diploma from an institution having at least a four years' course of not less than seven months in each calendar year, also approved and listed by the board. Under the amendments power is given the board to raise from time to time both the standard of preliminary and medical education, but it cannot accept a lower standard than that just noted. In the future every student entering a medical college, not only in this state, but throughout the United States, in order to qualify for the state examination and license in Michigan, must have a certificate of matriculation of a standard recognized by the board, and which, in passing, may be stated will not be of a lower grade than that demanded by the University of Michigan, and which must be submitted to the board at the time of application for examination; consequently in the future no possible charge can be made by a college, which unfortunately has been very frequent in the past, that it had rejected a student from want of proper preliminary qualifications, and that this student had promptly been accepted by a rival school. In the amendments the board has power to investigate the standard and reputability of the course of a college not only in Michigan, but in the United States, and to refuse to recognize it, or if recognized, to unlist it if thought proper; also under the amendments the board has power to divide the examinations into primary and final, if thought proper, or to establish regulations in regard to the conduct of such examinations as thought proper.

The only other important changes or additions to the present medical act are of a disciplinary nature and give the board power to revoke certificates obtained by fraud or perjury, and for the punishment of offenders for such causes, to revoke certificates for unprofessional and dishonest conduct, or for offenses involving moral turpitude, habitual intemperance, the drug habit, inserting obscene advertisements, and for certificates obtained or issued through error. As is absolutely necessary in clauses relating to discipline, the board is given exceptional powers, and if the case is properly and fairly conducted there is no appeal from its decision. This, however, has been emphasized very recently in the United States Supreme Court in the case of *Reitz vs. State Board of Registration in Medicine*. It will, therefore, be seen that the board should be able to effectively deal with cases heretofore unreachable, and the fact that it has this power will act

as a preventive to a very large extent in the future.

Experience in the last thirty years in Michigan demonstrates the fact beyond question that it is not an easy matter passing a medical bill through the Legislature. It was only by a great deal of labor, perseverance, intelligence and good generalship that the Nottingham bill has become law. In the House it was necessary to table the bill the first day of its consideration in the committee of the whole, in order to prevent all after the enacting clause from being stricken out. The principal opposition to the bill came from the osteopaths, who demanded at first to be represented on the board, and the Health Committee of the House had at one time decided to report out the bill with an osteopathic member added to the present school membership. Even so very conservative and intelligent a member as Speaker Carton, a lawyer, supported this proposition, although in favor of medical legislation. The members of the House obtained the impression that it was the intention of the amendments to drive the osteopaths from the state, from the fact that Section 8 of the bill did not exempt them from its provisions, as in the Chandler act. This, of course, gave them the status of the "under dog," and gained for them a great deal of sympathy. In addition they were well organized, with a paid lobbyist and funds without limit. A campaign of education in both houses had then to be undertaken, and the fact that osteopathy was not in any sense a system of medicine, but rather a specialized treatment, made plain. The osteopaths had had noticed in the Senate a bill creating an osteopathic board modeled on similar lines to the medical bill, and creating a board of osteopathic examiners. Their 1897 act, which their present act repeals, was modeled after the 1883 Howell Medical act, and under it it is claimed all sorts and conditions of fake graduates of diploma-selling osteopathic institutions have registered in Michigan, and this new registration act lately passed by the Legislature and signed by the Governor, it is claimed will cut off some five hundred disreputable osteopaths practicing in Michigan, and will register only some one hundred and twenty-five legally so-called reputable osteopathic practitioners. As osteopaths were already legally recognized in Michigan under Act. 78, of the Public Acts of 1897, therefore as there was no principle involved in consenting that they be allowed to regulate themselves in a proper manner, the promoters of the Nottingham bill agreed to allow their bill, subject to review in the Senate Com-

mittee by your committee, passage through the House and Senate without opposition, provided they made it plain to the members of the Legislature that osteopaths were in no sense physicians and surgeons, and that in consequence they did not desire or deserve representation on the medical board. The committee had the pleasure of reviewing and correcting the osteopathic bill in the Senate Committee on State Affairs, and the alterations and modifications suggested were, through the influence of Senators Bangham and Sovereign, agreed to and adopted by the committee, and the bill, so altered and modified, was reported out and passed by the Senate and House, and has received the Governor's signature. In reviewing this bill the theory that an osteopath is not a *physician*, but a *masseur*, was strictly adhered to. The words, "osteopathic physician" were changed in every case to "osteopathic practitioner," and the lines as follows in the original, namely:

"the certificate provided in Sec. 2 of this act shall entitle the holder thereof to practice osteopathy in the State of Michigan, but it shall not authorize him to administer drugs or to perform major surgery,"

were altered to.

"the certificate provided for in Sec. 2 of this act shall entitle the holder thereof to practice osteopathy in the State of Michigan, but shall not authorize him to practice medicine and surgery within the meaning of Act. No. 237 of the Public Acts of 1899, or acts amendatory thereto."

An amendment to masseurs or nurses practicing massage or manual Swedish movement was also added to the bill. As courts have always held that osteopathy is massage and osteopaths masseurs, and that massage comes within the provisions of a medical act, and as osteopaths are prohibited from practicing medicine and surgery under their own act and exempt masseurs from its provisions, and as osteopaths are not exempted under the present medical act, and as the present medical act revokes anything in the osteopathic act in conflict with it, it seems a certainty that in order to practice under the provisions of his act it would be necessary for an osteopath to prove to the courts that the thing they designate osteopathy is really and in fact what they claim it is. For years in every state attempts have been made to get them in this position wherein they would be obliged to "fish or cut bait," but without success. It will be interesting to follow the result

now that this attempt has been successful in Michigan.

Osteopaths under their act of '97, just repealed, and through the exemption to them in this act, by the Chandler Medical Act, had a certain semi-legal status as physicians which allowed them to use the title of "Dr." and "physician" and to practice all forms of medical treatment, exclusive of the use of drugs, but under their new or present act they have absolutely no status as physicians and are specifically enjoined from practicing medicine or surgery within the meaning of the medical act. Why they accepted this present act with its iron-clad medical restrictions in exchange for an act which gave them liberties and a status not contemplated by the Legislature is a problem which your committee will not attempt to solve at the present time. However, this arrangement with the osteopaths and their friends, as noted above, made possible the passage of the Nottingham bill, and in its passage through the House the medical bill was given generous and honest support by the representative osteopaths who, to their credit, kept their agreement to the letter. It may be added in passing also that the active supporters of the medical bill kept their agreement, namely, that the osteopathic bill should go through the Senate and House unchanged as reported out by the Senate Committee on State Affairs.

Organized opposition to the preliminary educational clause of the bill was met with in its passage through the House. This opposition was fathered by the Homeopathic Practitioners' Society of Detroit, who represented some five per cent. of the homeopaths in this state, and who endeavored to have the approval by the board of diplomas from a high school, academy, college or university amended so that a medical college could accept as a matriculant the holder of any high school, academy or college diploma of the United States. This change if made would have taken away from the board control of the standard of preliminary education and would have resulted in a low standard for the present and also would have prevented any increased standard in the future, and therefore would have completely destroyed the very intent of the act—control of the standard of preliminary and medical education by the state. This opposition was defeated in its purpose simply through the want of preliminary education possessed by those who represented the opposition. By consent the following lines, namely:

"That such applicant shall have, previous to the beginning of his course in medicine, a diploma from a high school, academy, college or university *approved by this board.*"

were changed to its present reading:

"That such applicant shall have previous to the beginning of his course in medicine a diploma from a *recognized and reputable* high school, academy, college or university having a classical course."

In law a recognized and reputable institution becomes so recognized and reputable through and only by "approval by the board." The great majority of homeopaths in the state, however, represented by such men as D. M. Nottingham, M. D., Lansing, O. R. Long, M. D., Ionia, M. C. Sinclair, M. D., Grand Rapids, Joseph H. Cowell, M. D., Saginaw, Albert Lodge, M. D., and Oscar Le-Seure, M. D., of Detroit, stood for the bill in its entirety and opposed the demands of the Detroit Homeopathic Practitioners' Society. The bill had also the undivided support of the State Eclectic and Physico-Medical Societies.

Michigan has now one of the best, if not the most efficient medical act in the United States. Under it an ever-increasing medical standard is assured. This act also will promote medical reciprocity. Already Michigan has justly earned the name of "mother of practical medical reciprocity;" as she is the originator of the federation of state boards under which a practical basis of medical reciprocity has been established, and the several state boards of such confederation are now daily registering practitioners upon the qualification of reciprocity certificates.

In closing this report, which is necessarily somewhat long, your committee would commend, among others, for services in connection with the passage of the bill Senators Arthur D. Bangham, M. D., and Fred F. Sovereign, M. D., of the Senate, and Representatives D. M. Nottingham, M. D., S. J. Colby, Wayne, Theodocius Wade, Allegan, and L. T. Hemans, Ingham, of the House, to all of whose efforts in its behalf the Chandler-Nottingham Medical Act in large part owes its existence. The active members of the Legislative Committee of the State Medical Board who are responsible for the amended act, and who had the bill in charge continuously during its passage are: William Bell, M. D., Chairman, W. H. Sawyer, M. D., Joseph H. Cowell, M. D., J. B. Griswold, M. D., and B. D. Harison, M. D., Secretary

Your committee would also commend the very effective and willing work done in the interests of the medical act by the fifty-eight County Medical Societies throughout the state in affiliation with the State Society. These societies passed resolutions advising their respective Senators and Representatives to support the proposed act, and individual members of each Society used their personal influence with legislators in favor of the bill. We believe that this united action on the part of the Societies resulted in much good."

B. D. HARISON, Chairman.

GEORGE E. RANNEY,

BION WHELAN,

Committee on Legislation
and Public Policy.

REPORT OF AUXILIARY COMMITTEE TO THE COMMITTEE ON NATIONAL LEG- ISLATION OF THE AMERICAN MEDICAL ASSOCIATION.

EMIL AMBERG,

Detroit.

In view of the fact that in 1902 the conference of the committees on National Legislation of the American Medical Association was very much interested in the reciprocity movement I should like to report the progress of the work. As you are aware the efforts of those who have been working for reciprocity resulted, among other things, in the formation of the American Confederation of Reciprocating Medical Examining Boards. Although the same idea has been taken up by others this Confederation especially was formed mainly upon suggestions of your delegate. The profession, as a whole, is under obligation to those men who have established the various unions of medical examining boards, of which the latest is the one in which the Secretary of our State Medical Board is very much interested.

The hard and conscientious work done by the Secretary of our State Medical Board, Dr. B. D. Harison, of Sault Ste. Marie, who at the same time fills the position of Secretary of the American Confederation of Reciprocating Medical Examining Boards, cannot be commended too highly.

A great deal of misconception concerning reciprocity is still manifest, in spite of the efforts

of those who, again and again, have pointed out and are pointing out the fact that reciprocity means, not a lowering of the standard, but always a raising of the same. The true spirit of reciprocity has been admirably aided by the recent meetings at New Orleans. So far as your delegate has learned from rather exhaustive reports in the lay press, the National Confederation of State Medical Examining and Licensing Boards has given a great deal of attention to conditions of medical colleges and advocated uniformity of medical education. This certainly is a great aid to reciprocity.

The American Medical Association has also worked towards the same end. Not only has the President of the American Medical Association, Dr. Frank Billings, expressed the opinion of the intelligent public and of the well meaning members of the profession in unmistakable terms, but the spirit of uniformity of a high character is the key-note of all transactions of those in New Orleans on whom the attention of the profession of this country was centered, about a month ago.

It may again be repeated that the very word reciprocity invites comparison. One state asking reciprocity from another state will immediately be examined as to its laws and standard of education, and if reciprocity should be refused, the citizens and physicians of the state may well ask for the reason why this is done. The State Medical Boards, and through the same the medical profession and the public, will learn that the refusal is based on the inefficiency of the medical laws and institutions, and what American citizen will allow conditions to continue which make the community appear to be of a lower intellectual and moral standard in professional matters than a neighboring community? The very nature of our country does not allow any rapid changes to take place; the changes have to work themselves out, and reciprocity is admirably fitted to let this grinding process go on gradually. This evolutionary development will not cease until the license to practice medicine in any state of our country means that the holder of this license is a physician in any state, territory or province.

The perhaps possible, although not yet probable, establishment of a voluntary National Examining Board works toward the same end, and is practically nothing else but reciprocity, because it means the acceptance of a license by a state, even if this state did not examine the graduate. It means a concession on a high basis, just like true reciprocity. It is voluntary on the part of the state to accept the licensate. It appears that

the work done at present by the various state boards in the American Confederation of Reciprocating State Boards may lead towards the same end, as the reciprocating state boards can easily appoint a central examining committee among their members, if they should choose to do so.

In whatever form the final result presents itself is immaterial. Whatever may be accomplished, so much is certain, that like under other circumstances, only hard and conscientious work will be accompanied and followed by success and any efforts on the part of those who try to replace unhealthy conditions by sound conditions should be aided by every member of the profession. I call attention to the Constitution of the American Confederation of Reciprocating, Examining and Licensing Medical Boards of the United States of America, which is attached to this report.

I cannot refrain here from again giving credit to the Wayne County Medical Society, of Detroit, which appointed, in the year 1899, a committee in order to further uniform medical legislation. Little did some members of the Society think at that time of how far reaching importance their efforts would be. From the Atlantic to the Pacific, and from the Gulf to the Lakes the question has been taken up, and even if nothing practical would have been achieved, much has been accomplished by the mere fact that professional sentiment towards higher education and towards removal of unwarranted and untimely barriers has plainly been brought to the surface. It cannot be denied that by the efforts of the Committee of the Wayne County Medical Society the profession all over the United States has begun to pay more attention than ever before to almost all questions involved, and whether it is to be in the end the establishment of reciprocity on the original plan, or whether it be the formation of some kind of a central examining board, those who will read the medical history of the end of the nineteenth and of the beginning of the twentieth century must trace the origin of the movement in its effective form to the Wayne County Medical Society of Michigan, and to its Committee.

The Committee proper on National Legislation of the American Medical Association, consisting of three well known members, had power to act ad interim, and their efforts in regard to the anti-vivisection bill are known.

Provided that the American Medical Association should ask for the continuance of the Auxil-

ary Committee to the Committee on National Legislation of the American Medical Association your Committee recommends to the Society that such a committee be continued.

THE NOTTINGHAM MEDICAL ACT.

ACT NO. 353, LAWS OF 1903.
(Amending Act 237, Laws of 1899.)

AN ACT to amend sections one, three and seven of act number two hundred and thirty-seven of the public acts of eighteen hundred and ninety-nine, entitled, "An act to provide for the examination, regulation, licensing and registration of physicians and surgeons, and for the punishment of offenders against this act, and to repeal acts and parts of acts in conflict therewith." The People of the State of Michigan enact:

Section 1. Sections one, three and seven of act number two hundred and thirty-seven of the public acts of eighteen hundred and ninety-nine, entitled, "An act to provide for the examination, regulation, licensing and registration of physicians and surgeons, and for the punishment of offenders against this act, and to repeal acts and parts of acts in conflict therewith," are hereby amended so as to read as follows:

Section 1. The Governor shall appoint by and with the advice and consent of the Senate, ten resident electors of the State, who shall constitute a Board of Registration in Medicine. Not more than five of the persons so appointed shall be from the school of medicine known as regular; not more than two of the persons so appointed shall be from the school of medicine known as homeopathic; not more than two of the persons so appointed shall be from the school of medicine known as eclectic; and not more than one of the persons so appointed shall be from the school of medicine known as physio-medical, and the Governor may select such appointees from the latest lists filed in the office of the Secretary of State at Lansing by each of the four legally incorporated State medical societies of the schools of medicine as herein mentioned aforesaid, such lists to be certified to under oath of the president and secretary of each society respectively, and such lists to contain at least treble the number of names as each society has representatives on the board. But in the event that one or more of the societies above named, through their presidents or secretaries, shall, from any cause, neglect, omit or refuse to file as aforesaid, such list or lists, then and in that case the Governor

shall appoint or fill the vacancies in said board without reference to such list or lists which the aforesaid society or societies have for any cause neglected, omitted or refused to file with the Secretary of State, as herein mentioned aforesaid; but the number of representatives from each of the schools of medicine shall be the same as provided for in this act. All persons so appointed shall be legally registered physicians of this State, shall be graduates in good standing of reputable medical colleges, and shall have been actively engaged in the practice of medicine in this State for at least six years immediately preceding the time of such appointment. The ten persons so appointed shall be appointed in two classes, each class to consist of five persons. The first class shall consist of those physicians appointed by the Governor under act number two hundred thirty-seven, laws of eighteen hundred ninety-nine, October first, A. D. nineteen hundred one, who shall serve during the time for which they were so appointed, namely: To October first, nineteen hundred five; and the second class shall be appointed to hold office for four years beginning with the first day of October of the present year, and both classes shall hold office until their successors are appointed; and thereafter the Governor shall appoint, before the first day of October of each biennial period, five persons qualified as aforesaid, in each class, to hold office for four years from the first day of October next ensuing. No member of said board shall belong to the faculty of any medical college or university. The Governor shall also fill vacancies occasioned by death or otherwise, and may remove any member for the continued neglect of duties required by this act. Vacancies in said board shall be filled in accordance with the provisions of this act for the establishment of the original board, and a person appointed to fill a vacancy shall hold office during the unexpired term of the member whose place he fills. The business of said board shall be transacted by and receive the concurrent vote of from at least seven members.

Section 3. On and after the date of the passage of this act, all men and women who wish to begin the practice of medicine and surgery in any of its branches in this State, shall make application to the State Board of Registration in Medicine, to be registered and for a certificate of registration. This registration and certificate shall be granted to such applicants as shall give satisfactory proofs of being twenty-one years of

age and of good moral character, but only upon compliance with at least one of the following conditions contained in subdivisions one, two and three of this section:

First, The applicant shall be registered and given a certificate of registration if he shall satisfactorily pass an examination before the board upon the following subjects: Anatomy, physiology, chemistry, pathology, materia-medica and therapeutics, toxicology, histology, practice of medicine, surgery, obstetrics, gynaecology, mental and nervous diseases, diseases of the eye, ear, nose and throat, bacteriology, hygiene, public health laws of Michigan and medical jurisprudence; said examination to be conducted as follows:

(a) The applicant shall pay a fee of twenty-five dollars prior to examination: Provided, That the examination fee for graduates of any medical school in the State of Michigan, approved by said board, shall be the sum of ten dollars.

(b) The examination shall be in writing, oral or both.

(c) The questions on all subjects, except in materia-medica and therapeutics and practice of medicine, shall be such as may be answered alike by all schools of medicine.

(d) The applicant shall, if possible, be examined in materia-medica and therapeutics and practice of medicine by those members of the board, or by a qualified examiner appointed by the board, belonging to the same school as the applicant, and no applicant shall be rejected because of his adherence to any particular system of practice.

(e) An average percentage of at least seventy-five per cent. of correct answers shall be required from every candidate. No additional fee shall be charged by this board for the registration of those who successfully pass such examination: Provided, however, That such applicant for examination shall have a diploma from a legally incorporated, regularly established and reputable college of medicine within the states, territories, districts and provinces of the United States, or within any foreign nation (provided such foreign nation accord a like privilege to graduates of approved medical colleges of this State) having at least a four years' course of seven months in each calendar year, as shall be approved and designated by the Board of Registration in Medicine: Also Provided, That such applicant shall have, previous to the beginning of his course in medicine, a diploma from a recognized and reputable high school, academy, college or university,

having a classical course, or shall pass an examination equivalent at least to the minimum standard of preliminary education adopted and published by the board before examiners appointed by and in accordance with the regulations of aforesaid board, and at such time and place as the board may designate: Provided, A student entering a college in Michigan, having a preliminary examination of a standard approval by the Board of Registration in Medicine shall not be required to take this examination. Provided, That this requirement of preliminary education shall not apply to those students who, on the date of the passage of this act, were regularly registered as students of legally organized and reputable medical colleges approved of by said board: And provided, also, That the requirement of medical education shall not apply to those graduates of legally organized and reputable medical colleges approved of by said board who had graduated from such colleges, previous to the date of the passage of this act; and students complying with the other provisions of this section, who on January first of the present year were regularly registered as students of legally organized and reputable medical colleges of this State, approved of by said board, may obtain a certificate of registration as graduates of such colleges and without examination by the board upon payment of a fee of ten dollars. The Board of Registration in Medicine shall, from time to time, adopt and publish a minimum standard of medical education, and no medical college shall be approved and designated by said board under this subdivision one, of section three, unless, in the judgment of the board, it conforms with such standard;

Second, The applicant shall be registered and given a certificate of registration if he shall present a certified copy or certificate of registration or license which has been issued to said applicant in any foreign nation where the requirements of registration shall be deemed by said Board of Registration in Medicine to be equivalent to those of this act: Provided, Such country shall accord a like privilege to holders of certificates from this board. The fee for registration from applicants of this class shall be twenty-five dollars;

Third, The applicant shall be registered and given a certificate of registration if he shall present a certified copy of certificate of registration or license which has been issued to said applicant within the states, territories, districts or provinces of the United States where the requirements for registration shall be deemed by the

Board of Registration in Medicine to be equivalent to those of this act, and shall otherwise conform to the rules and regulations agreed upon between the State Board, of which he is a licensee, and said board relative to the recognition and exchange of certificates between states: Provided, Such states shall accord a like privilege to holders of certificates from this board. The fee for registration from applicants of this class shall be twenty-five dollars;

Fourth, If any person shall unlawfully obtain and procure himself to be registered under this section, either by false and untrue statements contained in his application to the Board of Registration in Medicine, or by presenting to said board a false or untrue diploma or license, or one fraudulently obtained, he shall be deemed guilty of a felony, and on conviction thereof shall be punished by a fine of not less than three hundred dollars nor more than five hundred dollars, or imprisonment at hard labor for not less than one year, nor more than three years, or both, at the discretion of the court, and shall forfeit all rights and privileges obtained or conferred upon him by virtue of such registration as a physician or surgeon;

Fifth, Any person who shall swear falsely in any affidavit or oral testimony made or given by him to the Board of Registration in Medicine, shall be deemed guilty of perjury, and upon conviction thereof shall be subject to all the pains and penalties of perjury;

Sixth, The Board of Registration in Medicine shall refuse to issue a certificate of registration provided for in this section to any person guilty of grossly unprofessional and dishonest conduct of a character likely to deceive the public, and said board shall, after due notice and hearing, revoke a certificate issued subsequent to the date of the passage of this act, or subsequent to the date of the passage of act number two hundred thirty-seven of the public acts of eighteen hundred ninety-nine, for like cause or for offenses involving moral turpitude, habitual intemperance, the drug habit, or for fraud or perjury in connection with obtaining of a certificate of registration or for a certificate obtained or issued through error, when such offenses shall have been legally established in a court of competent jurisdiction: And, provided further, After the passage of this act, the board may at its discretion revoke the certificate of registration, after due notice and hearing, of any registered practitioner who inserts any advertisement in any newspaper, pamphlet, circular, or other written or printed paper, relative to venereal diseases or other matter of any obscene or offensive nature derogatory to good morals.

Section 7. Any person who shall practice medicine or surgery in this State without first complying with the provisions of this act, or any person who shall violate its provisions (except as heretofore provided in section three of this act), shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than one hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both such fine and imprisonment, for each offense. It shall be the

duty of the prosecuting attorneys of the counties of this State to prosecute violations of the provisions of this act.

BUT ONE PROFESSION OF MEDICINE.

The ethics of all the educated classes of people distinguish them from each other, as well as from the unlearned, and we may now find but little ground for dividing the medical profession into separate classes. Sectarianism fades before the broadening lights of a uniform course of systematic education, just as the refining process of analysis separates the pure gold from the adulterating deposits of earth in which the crude ore is found. Education just as certainly creates ethical regulations for individuals deportment as it broadens the sphere of intellectual activity. With the general recognition of these facts all opposition to ethical rules vanish.

If the medical profession is not now a confraternity it soon will be. It is certainly reduced to a common plane as to collegiate training and legal exaction, and it has so far advanced in the growth of knowledge as to be at once conspicuous in the intellectual pre-eminence of its teachers and practitioners.

To assist in this great work of advancement the profession itself must be organized. The recently adopted plan of the American Medical Association to have all the states organized with their auxiliary county and district societies, provides a broader and better field for the continuation of our further development in those channels of scientific knowledge which experimental research alone may unfold to us. Laboratories for experimental tests are every day opening to us some of the mysteries of pathology and laying the sure foundation of new therapeutic procedures. The Roentgen rays of electric light came from the experimental laboratory to aid us in the diagnosis of internal growths, the dislocation of fractured bones, the presence and location of foreign bodies hidden by the flesh of our bodies; and, later, to melt away malignant growths on the surface and within the body. Hundreds of other blessings to humanity have resulted from the community of experimental science.

We never ask what political, religious or other opinions are held by the doctors of medicine. The great question is this, has he a systematic and duly accredited medical education? Has he been lawfully admitted to the practice of his profession? Now, as physicians, we may ask, does he possess a collegiate degree from a first-class medical school, and is he disposed to observe those ethical rules our organized societies have established for the observance of the members, and will he unite with us in our attempts to uphold and maintain the honor and dignity of the profession as a body?

We are one profession in spite of any number of protesting individuals. We are one profession by virtue of our community of interest, occupation and educational training. We are one profession by virtue of our lives of devotion to a common cause.—DUDLEY S. REYNOLDS, A. M., M. D., Louisville, in *American Medical Association*, June 27, 1903.

A RAPID AND EASY METHOD FOR THE STERILIZATION OF CATGUT LIGATURE AND SUTURE MATERIAL.

Since the introduction of catgut as a ligature and suture material by Lister, efforts have been directed to perfect and simplify the method for its sterilization. The delicate structure of the material will not permit of harsh treatment, therefore sterilization must be accomplished with great care, otherwise the tensile strength will be impaired. Usually the technic leading to the desired result is complicated, costly, and time consuming.

The various methods for the sterilization may be summarized under the following heads:

Dry Heat.—The process consists in baking the material at a temperature of about 220° F. Properly the temperature should be raised gradually and be maintained for from one to two hours, depending upon the size of the catgut. The process should be repeated twice at least, allowing an interval for germ development from spores. Even with every care weak spots are likely to develop in the catgut prepared with this method of sterilization.

Moist Heat.—The sterilization in the majority of methods coming under this head depends upon the high boiling points of certain liquids in which the catgut is immersed. The liquids commonly used are mixtures of the hydrocarbons, such as cumol (cumene), B. P. 152°-153° C.; xylene (xylol), B. P. 136°-143° C.; benzol and alcohol, B. P. 50°-60° C., and about 78° C., respectively. It may be said, however, that the boiling point of the latter two is far from being high enough to kill even the less resisting spores. All of these liquids are inflammable and require, as a rule, complicated and expensive apparatus to carry out the sterilization safely.

Chemicals.—Those commonly used are: Carbolic acid, chromic acid, creolin, formalin, and mercuric chlorid. The latter heads the list for efficiency, and is found in the majority of formulas. It is known to kill the most resisting spore—that of anthrax—in a few minutes, using a solution 1-1000. Lately iodine has been used. The theoretic objection to the use of a chemical germicide is its supposed effect in lowering tissue resistance and thus favoring infection. Mercuric chlorid is said to increase wound secretion, thus producing a favorable culture-medium for the growth of pus-forming bacteria.

The object of this article is to give to the profession a rapid and easy method for the sterilization of catgut, which has proved its reliability in practical tests, having been used in some 3,000 operations. Wounds in which catgut so prepared has been used have healed rapidly, and suppurations following have been unusually rare and could not be traced to the material. It has also been tested bacteriologically, always with negative result.

The Technic.—Have ready one two-quart and one one-quart clean fruit jar for each size of the material used. It is well to have an extra one-quart jar for use in preparing a fresh batch when one on hand is nearly used. The jars must be thoroughly cleaned beforehand and sterilized by boiling or dry heat. The various sizes of catgut can be purchased from any reliable firm dealing in surgical supplies. The sizes found most convenient are 00, 0, 1, 2, and 3. The first three sizes are cut into lengths of about ten inches and used for ligatures and sutures; the last two, 20 inches—used for pedicles, etc. For convenience, a piece of wood 10" x 3" x 1/4" is obtained, and both ends cut to a point and notched at intervals of one-quarter of an inch for catching the ends of the strands. After winding lengthwise, cut the smaller sizes at both ends of the board; the larger at one end only. Three strands of a similar size of the short lengths are placed in an envelope of unglazed paper, a convenient size being 3" x 1 1/4". Two strands of a similar size of long lengths are likewise placed in envelope. Seal and mark with an indelible pencil the size number on the outside of the envelope. The number should be made large enough to be plainly seen. It does away with the necessity of putting germ-catchers on the outside of the jar. Envelope and contents of similar size are kept in a two-quart jar until wanted.

Sterilization is accomplished by placing 40 or 50 envelopes and contents in a one-quart jar and completely filling it with the following germicidal solution:

Mercuric chlorid.....	1.	(15 gr.)
Tartaric acid.....	5.5	(75 gr.)
Columbian spirits		
Ether	of each	473. (1 pint.)

Put on the cover and screw it down tightly. Allow size 00 to remain in the solution for four hours; size 0, six hours; size 1, eight hours, size 3, twelve hours. After the material has been immersed for the desired time pour off the solution and drain, then cover envelopes and contents with columbian spirits, screw on the cover, and put away in a clean place until wanted. It is essential that columbian spirits be used. Ethyl alcohol cannot take its place, even when the absolute alcohol is used. Columbian spirits is a pure methyl (wood) alcohol practically free from water. It is inexpensive, costing less than the ordinary alcohol. It can be obtained usually at paint stores. It serves to toughen the catgut, acting much the same way as does formalin. In removing the envelopes from the jar use a pair of vulsella forceps kept expressly for this purpose. Thread the needles, then place in recently distilled water. Catgut prepared by this method possesses all the requisites of a good ligature and suture material—strength, pliability, and most important, asepsis. The technic of sterilization is easy to carry out and it is inexpensive. The very minute quantity of mercuric chlorid remaining in the material overcomes the theoretic objections to its use.

J. M. GARRATT, M. D., Buffalo, in *American Medicine* for June 27, 1903.

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THE SURGEON: HIS OPPORTUNITIES AND RESPONSIBILITIES.*

FREDERICK W. ROBBINS,
Detroit.

In view of the fact that each one of those present has had granted to him the rights and privileges of the surgeon, the question may well be raised: Who is the man loaded with special responsibilities, and who has opportunities not possessed by others?

To one observing the trend of affairs in the business world, there appear marked examples of specialization on the one hand, and as conspicuous instances of generalization on the other. In so far as the mammoth department store supplies the demand of the people acceptably, both as to material and price, it fulfills its mission, but when the individual caters to a smaller number with greater satisfaction, he is a needed factor in commercial life. One, who without question enters a well equipped jewelry store to make ordinary purchases, will, when a fine diamond is to be bought, go to the diamond expert, knowing that he is to pay a greater proportionate price.

A manufacturer builds and equips an establishment for doing the best work, having but one object in view; he succeeds; his product is acceptable, and on the reputation gained in doing one thing well, he may add to his line, and as long as he places on the market a first class product his reputation and wealth grow, but when he over-reaches his power and his product represents quantity not quality, the prestige of the institution wanes and its patrons again seek the concern which has not departed from its principle of limitation in quantity but perfection in quality.

With the individual, circumstances may lead him toward specialization or generalization. In a small community a business man attends to many things. His store furnishes the house-wife with general merchandise, and at the same time, hardware and clothing to the camp. The farmer may conduct a general farm on the one hand, or expend all his energy in the cultivation of small fruits for the city market, on the other. The sale of wheat may be his only source of revenue; while he purchases milk and eggs for his own consumption. The lawyer, architect or civil engineer may devote his time to the working out of the many problems of the various departments of his profession, while, if located in another place, either from natural fitness, special energy, or circumstance, may find himself develop-

*Oration on Surgery read at Annual Meeting of the Michigan State Medical Society, at Detroit, June 11th, 1903.

ing in some extraordinary way a very narrow branch, it may be, leaving other work with which he has become by early training more or less familiar, to another. What is the result of this special work? Is it not in a broad sense the general advancement of every other worker along his line and the elevation of the particular profession of which he has become a member?

I take it that in the development of the medical profession, as various questions regarding it and its advancement come to the fore, the same forces will be found to be at work, and with similar results, as in all other lines of professional work, and I may safely add, in business enterprises as well.

In the development of our profession it has come to pass that instead of the generic term doctor we are hearing of the surgeon, gynecologist, ophthalmologist, dermatologist, urologist, etc., etc., and shortly, even now, the time is at hand, when the internist will lead them all. The surgeon, as one of the first to swarm, may be taken as a type of all the specialists, and in a great measure his opportunities and responsibilities are those of all the rest. At present in our body what do we actually find? Although we talk so glibly of our specialty, we find a large number of general practitioners with a leaning toward surgery as a specialty, and in the entire state of Michigan probably not more than a dozen who are distinctly and only surgeons, and of these all but two or three have grown from the ranks of the general practitioner.

Besides these there are many who with other things do excellent surgical work. They are scattered all over the state and each in his own way is doing his best to

elevate the standard of his profession. Not all men have the same ability, the same opportunity or the same taste; therefore, it happens that in every community there is found one or more men especially known to their neighbors as surgeons. This position has been gained by one who has had special training, and by another who, to a native courage, has added hard scientific study. It is no doubt true that the spirit that brings success is cloaked in the words of a prominent surgeon in my hearing: "Whatever any one else has done, I can do," and yet he will be the great surgeon who observes and appreciates the scientific work done in other branches of medicine and of the worker says: "You are as good as I am."

A man's individuality will show itself in his work. Some are original; they do new things; they do old things in new ways. The opportunity rests with such minds of perpetuating their names among the great of this world. They add rungs to the ladder upon which others may climb. They are the profession's leaders.

Upon those who are not original rests the responsibility of improving to its utmost, their technique. In such improvement lies the reputation of the majority, the reputation of doing things well.

The word "successful" bears with it a magic that appeals to all who have the lives of dear ones in their keeping. So much is this the case that at times we hear of men sending their patients not to a well known surgeon of great experience and ability, but to another because he is known to them as a successful surgeon; a good reason truly, but in the effort to become known as the successful surgeon, methods are sometimes adopted which might better be not employed.

Among the sins of omission there is that of telling the truth but not the whole truth. We do not like to tell of our operative defeats and yet it is as often from defeat as from victory that important lessons are learned. If we write, it should be with the intention of saying something that will benefit our fellow practitioners, not simply with the purpose of letting others know what we are doing. Not long ago I listened with great interest to a discussion on the subject of the treatment of prostatic hypertrophy and from that discussion one might easily conclude that the various methods of treating those so unfortunate as to have an enlarged prostate were so safe and simple that one would be derelict in not advising all such patients to subject themselves at once to an operation. One of the most prominent surgeons in the country was strong in praise of his special operation and just as vehement in criticism of another method. Nothing was said of the dangers of the operation as his beautiful specimens were exhibited, but after the meeting a friend of mine asked him how often he had employed the method denounced, and he admitted that not once had he performed it, — a good reason certainly for not endorsing the method, but not a good one for denouncing it. In the last analysis theories must give way to practical results. This same surgeon was then asked what his mortality record had been. He was not prepared to say and being pressed for an answer referred my friend to his assistant, from whom it was learned that his mortality had been very high. Ordinarily it might not have been quite fair to thus push a surgeon to the wall but I wish to emphasize the fact that the responsibility for the impressions given to

the profession as to the danger of operative procedures rests with those who write and teach. The physician, general practitioner or specialist must be in a position to conscientiously advise his patient what to do and this cannot be done unless in our discussions and writings there is a spirit of candor with ourselves and frankness with each other. To exalt one's self as the successful surgeon when such reputation is gained by concealing facts is not only unfair to the honest surgical worker but, in the long run, must re-act upon the surgical profession as a whole.

On the other hand, when in a series of cases sufficient in number to be of value, one can show that his technique has resulted in saving life, it is the right and duty of that one to be a teacher, not a worker merely, and to him goes honor as comfort and health come to the human race through those who have learned of the master.

This is the teaching of the founders of our loved profession and it is this generous honest devotion to his profession and fellow-man that distinguishes the professional man from the quack.

Not long ago one of our most honorable physicians was grieving over the fact that another had attempted a very difficult operation and for the reason that he could not afford to let the case slip through his hands. This instance stimulates our thoughts in the direction of how we may best help ourselves and each other. In many communities no specialist can live; but in the larger ones, not large cities necessarily, it is possible for men to narrow their field of special work and study and bring the results of such work before the profession in such a manner as to advance the medical reputation of a com-

munity. One need not become an exclusive specialist but he may become a special student. One has only to look over in his mind the material gone to waste in his own practice during a decade to see this. How often one sees a case and says to himself, "O, that I had time to spend on this case, elucidate the difficult questions connected therewith and give the results to the profession." The opportunity for such work comes to the man whose brain and body are not overworked with general practice, and perhaps, parenthetically, it may be suggested, that much of such valuable work is allowed to go undone because one has not enough energy, ambition or physical strength to do it.

Special work accomplished by one is a help to all and deserves recognition for we know that it has been at the expense of much professional and personal self-denial.

For a moment let the general practitioner take a retrospective glance over his career since entering on the practice of medicine. You have given comfort to a host who have been your friends and patients. You have treated all kinds of diseases; many of them you were quite familiar with; after a time you met a patient suffering with a cataract; you had been treating all ordinary eye cases and could do it as well as an oculist, but in a neighboring village there was a medical friend who had been in special training in order to be able to do eye work. He had operated on the eye of many a pig before attempting to put a knife into the human eye. He was familiar with the methods of the best men doing that work. He had watched them at work and gained by the experience. This doctor, it may be, was doing other work in the neighboring vil-

lage but because you knew that Dr. O— could do safe work for your patient you sent him to Dr. O——, who saved to the man a useful eye. You could afford to let him slip through your fingers; you saved in the patient a good friend and gained another in the physician.

During the next year you treated a large number of cases of skin diseases, with great success and had the satisfaction of knowing that your patient's confidence had not been misplaced. But later a case not familiar came to your attention or one amenable to treatment that you were not prepared to give. The dermatologist had the experience to enable him to make a correct diagnosis or the means at hand to properly treat it, and if the case was an incurable one, the burden rested where it belonged. As with Dr. O—— in the former case, so in this, you lost nothing by sending this patient to Dr. D——.

Is there a man here who has not yet learned the bi-manual touch with sufficient accuracy to enable him to detect the ovary in a normal woman? If so, he at least will not be surprised when he learns that during your first five years in practice you referred to the gynecologist a patient who had symptoms of pelvic disease but in whom you could discover nothing abnormal from head to foot except that the woman was sick. Could you have done otherwise and been honest? Did you lose anything by the courtesy? Is it possible that one who gives much thought to special work can discover anything that another can not? There is no doubt of it. There is no practitioner of ten years' standing but knows that he can feel fluctuation where he could not before, that he can palpate tubes and ovaries where he could not before; that he can

diagnose fluid in the thoracic cavity where he could not before; that he can not palpate a normal kidney where he thought he could before.

There is no disgrace attached to the fact that no one of us can do some one thing as well as some one of our confreres but this knowledge is reciprocal and the confrere is ever reiterating the refrain: "You are as good as I am."

But what about the surgeon? Is it possible that any one expects a surgeon, because he is the only surgeon in a small community, perhaps because he is the most renowned one in the metropolis, to do all things surgical equally well? It is generally known that this is not the case and it is this possibility of specialization in individual effort that raises the level of the spring of knowledge. This being true, is it not also true that it is firstly the surgeon's duty to do everything necessary to save life and relieve pain; that to one man there is given the responsibility of undertaking operations that to another are quite unjustifiable; in other words, no true surgeon operates on a patient just "to prevent the case slipping through his hands," but rather because he is fully competent to do the work, or, under stress of circumstances, is compelled to accept responsibility and perform operations which, under ordinary conditions, would be wrong for him to attempt?

It must not be assumed that the younger men are to stand aside and not do surgical work because they have not the experience of their elders. Under such an assumption where would have been our great surgeons of to-day? In general medicine the young physician does just as good work in the great majority of cases of sickness as his older

brother, but in complicated diseases where experience is of great importance he is considered the wiser and safer man who calls as counselor one who, by his ripper experience, can advise and instruct, this to the advantage of the doctor and the patient.

So with the young surgeon, it must be assumed and expected that he is not to attempt a severe and formidable operation himself just because some patient, ignorant of the dangers involved, has blindly trusted her life to his care. The patient, very likely has known of other operations done by her surgeon with success and the care and tenderness with which the surgeon has done the work has appealed to her, but in this case there is given the surgeon an opportunity of showing his splendid character by rejecting this responsibility in favor of another with experience in this class of cases, and thereby strengthening the faith that the community may be already granting him.

Is it not true that one must grow as a surgeon? It is the opportunity of the neophyte to perfect himself in surgical principles and technique, to study perfection in caring for the many cases that come to him through his general practice, and gradually with experience and observation comes the ability to honorably attempt the graver operations. This he may do providing he is so situated that the experience of one case is to help him in another and that from several in still more to come, but for a man doing and expecting to do general practice for the most part, I can find no excuse for his attempting grave and unusual operations, in the doing of which he can never expect by the experience liable to come to him, to perfect himself.

The opportunity of gaining skill in methods of precision rests with the young man. The older ones who have become successful can, as a rule, never gain it. These men of experience are undoubtedly able to make differential diagnoses by the older methods and in many cases better than can the young man with his more scientific equipment, but in case after case mistakes are made by these that could have been avoided had they called in the young man with his methods. It is no more honorable for the surgeon of great reputation to take grave responsibilities that may be avoided than it is for his younger brother. It need not hurt the pride of any to admit what he already knows, that no one man can be expert in all things. While in our country, especially, there is a great tendency on the part of the young not to appreciate the learning and judicial temperament that comes with experience, it must not be forgotten that the great advances in science come through the keen observation and enthusiastic work done in the waxing days of life.

In speaking a few words concerning the honesty of the surgeon I would not for a moment even discuss the question in the usual broad sense, for I believe it to be generally understood that a higher type of honor and honesty pervades the entire company of medical men, general practitioners and operators, than that of any other body of men; but I desire to mention one or two ways whereby we are in danger of losing prestige. In several journals of late the question has been discussed as to how far the medical man should tell the truth on all occasions; and those discussing the question make a strong appeal for perfect honesty of ex-

pressions; while we often hear the layman remark: "Why, the physician is not expected to tell the truth." Recently I have heard patients refuse to pay bills because they had been deceived as to the character of operations done, and others doing the same thing because certain unobtainable results had been promised. I do not wish to place myself on record as advocating the telling of the blunt truth on all occasions. The kind-hearted, burden-bearing, sympathetic physician must at times, it seems to me, refuse to take away the last ray of hope from a stricken individual or family, even at the expense of telling an untruth. Such instances are not as common as we imagine, but where they arise, each individual will assume the responsibility and the great judge will accord him a just judgment.

Some of us are optimistic, others pessimistic. When the pessimist sees a cancer of the rectum or breast, for instance, throws up his hands and treats these patients with placebos instead of immediately sending them to the surgeon who knows that he can save twenty to thirty per cent. of them, he is dishonest; and when the patient at last discovers that his opportunity has been lost, the profession as a whole has been injured. When the optimist treats a malignant growth, removable by operation, by electricity or the X-ray, or other means, the efficiency of which has not stood the test of time, the patient not having been enlightened concerning the status of the various procedures, he is dishonest and injures the profession as a whole.

When mutilating operations are undertaken, dangerous ones it may be, the patient and friends consenting because of the optimistic future pictured by the sur-

geon, the fee in hand certainly cannot repay the injury brought upon himself and the profession in general.

Opportunities come to those who have convictions of duty and follow them. Finally let me close with a few suggestions concerning the financial relation of the general practitioner with each other and the specialist. Why is it that so many of our general practitioners work so hard and receive so little compensation? Why should they make calls upon well-to-do people, charging one dollar a visit, when the prevailing charge is two? On such an income can they afford to visit the centres of imedical learning? Are they able to take needed vacations or enjoy some of the many pleasures at hand that other men in similar walks of life enjoy? Is it necessary for a physician to be a slave to his profession? Do not the best people appreciate the fact that men who give time to self-improvement are worthy of better compensation than those who continually drudge from early morn to late at night? Is the steady hand, the clear mind, the willing body found in the slave?

Has not the specialist, who does little or no general work, gained the confidence of the profession and people, given up many a dollar fitting himself to do better work? Is not many a day and week each year devoted to special study in connection with medical societies, among the poor at hospitals or in his office in order to increase his ability? In other words, in order to become possessed of most valuable assets he expends much capital expressed in terms of time and money. As a result he is called upon to do special work, for which in many cases, he gets little or no reward, and in others, large returns, depending on the ability of the

patient to pay, the energy expended and responsibility involved.

It is these specialists who are sometimes asked to divide their fees. These requests do not come from physicians who appreciate the dignity of their calling, nor do they often come from the dishonest grafter, for there are few such in our ranks; but rather, let me suggest, as the result of thoughtlessness. This thoughtless doctor forgets that his patrons would willingly pay for his time and special attention given in the critical moment, when as their trusted family physician, looking after their interests, he considers it necessary, with them, to consult a specialist. He forgets that when he impresses upon them the worth of his time, that they hold his judgment in higher esteem and that when he gives them such time and advice, the value of both in their eyes will be much the same as that which he seems to place on it himself. He forgets that out-spoken honesty of expression is in the long run appreciated by the people, and that nothing will so soon discredit a physician in a community as the feeling that he is indulging in sharp practice or betraying confidence. This thoughtless physician has for the time forgotten that his practice is much more substantial than that of the specialist and that he will be deriving an income long after that of the surgeon has dwindled. I think it can safely be asserted that ten general practitioners attain the age of sixty-five with a competency to one specialist who does the same thing.

The responsibility rests upon the surgeon to so regulate his charges in accord with the service rendered and the ability of the patient to pay that no physician calling him in consultation or to operate,

can truthfully say that the surgeon took the glory, the credit and the cash and left him only the drudgery and experience.

In conclusion let us remind ourselves that though the code of medical ethics has disappeared its principles remain, restated, modernized, reënthroned. It rests with us as individuals to keep its spirit ever to the front and thus, American medicine in the future, as it has been in the past, our glory.

FIBROMATA AS COMPLICATIONS OF PREGNANCY.*

REUBEN PETERSON,
Ann Arbor.

Uterine fibromata as complications of pregnancy have been discussed ~~amp~~ thoroughly in the medical journals during the past two years. So true is this that if one were to judge by the number of such articles alone, he would be forced to the conclusion that the complication is met with more frequently now than formerly. Such, however, is probably not the case. A better explanation seems to be that here, as elsewhere, the obstetrician is attempting to rid himself of antiquated, expectant lines of treatment for all cases and is endeavoring to formulate rules for the adoption of the more modern surgical methods in certain other cases. During the past decade the technique of pelvic and abdominal surgery has been so perfected that at the present time we can advise safely and with complete confidence for the complication under consideration, cer-

tain procedures which would have been inadvisable and rash fifteen years ago. This does not mean, however, that every pregnant woman with a fibroid tumor should be operated upon. That the abdomen can be opened and one or more uterine growths be removed with safety at all stages of pregnancy, should not relieve the obstetrician from the necessity of studying carefully his cases with a view of deciding which should be allowed to go to full term and which should be operated upon. Indiscriminate operating for the removal of such growths is as unscientific and objectionable as is the far too frequent practice of some surgeons to spend but scant time endeavoring to ascertain the exact nature of a pelvic lesion or abdominal growth, remaining satisfied with the thought that the diagnosis will be much easier after the abdomen is opened. Such methods are not only shiftless and unwarrantable, but they lead to unnecessary operations and often to grave mistakes.

If, then, we eliminate the two extremes of treatment of pregnancy complicated by uterine fibromata, operation for every sizable tumor, and nonoperation, no matter how severe may be the symptoms, the problem before us is by no means an easy one. Its solving is worthy of our serious consideration, and should give food for thought even to those who consider all gynecologic and obstetric questions settled and are passing upward in their operative work even beyond the diaphragm.

The pregnant fibromatous uterus presents three factors for consideration. These are in order of importance:

(1) The location of the growth both with reference to other parts of the uterus and its relative position within the pelvis.

*Read before the Section on Obstetrics and Gynecology at the Annual Meeting of the Michigan State Medical Society, at Detroit, June 12th, 1903, and approved for publication by the Committee on Publication of the Council.

(2) The size and mobility of the uterine tumor.

(3) The period of gestation at which the growth is discovered or gives rise to symptoms.

(1) *Location of the Growth.*—Submucous fibroids, because of the resulting hyperemia and changes in the endometrium, are frequent causes of sterility or abortions during the first or second months of pregnancy. When the ovum is retained longer, the dangers of infection are increased and in the presence of strangulated or sloughing submucous polypi, death may result from absorption even when the products of conception come away or are removed. It is by no means always an easy task to dilate the cervix and remove fetus and membranes from a canal distorted by submucous growths. In certain cases hysterectomy, either from above or below, is much safer.

Interstitial and subperitoneal fibromata, while less liable to give rise to intrauterine infection than are the submucous growths, are far more liable to produce pressure symptoms or to interfere mechanically with delivery. A tumor located in the lower uterine segment is most apt to cause trouble as pregnancy advances. It is liable to become wedged in the pelvis, as this part of the uterus does not rise relatively very far into the abdomen and the tumor is not carried over the pelvic brim. A growth, on the other hand, situated higher up on the uterus, especially if near the fundus, is carried easily above the pelvic brim and only its extreme size will cause it to give rise to pressure symptoms.

(2) *Size and Mobility of the Growth.*—The smaller growths, if favorably situated, may occasion sepsis and pressure

symptoms. It is not common to see the larger tumors associated with pregnancy. If sterility has not resulted from the mucosal changes, the weight of the tumor and its excessive blood supply, usually leads to an early abortion. It is not always easy to make a diagnosis of pregnancy in a large sized fibroid uterus. Sudden and rapid increase in the size of the tumor mass should arouse one's suspicions, even if cessation of menstruation and other confirmatory signs of pregnancy be wanting. Some five years ago I removed a large fibroid from a negress of thirty-three whom I had had under observation for some months. The menstrual flow had not ceased and the only signs of pregnancy were nausea and vomiting, which were ascribed to the pressure of the growth on the abdominal viscera. At the time of the operation, I thought I had to deal with a large fibrocyst of the uterus. However, an examination of the specimen revealed a four months' fetus in addition to the fibroid formations.

Perhaps of more importance than size, is the mobility of the growth. The less sessile and therefore the more movable the tumor, the greater chance it has to rise above the superior strait as the uterus enlarges, or slip by the fetus as the latter descends through the birth canal. Perhaps the most dangerous complications as regards impediment to labor arise from intraligamentous growths, or those tumors whose lobes grow deep down in the pelvis. It is not uncommon in operating upon growths of this last variety in the unimpregnated uterus, to be unable to lift them from the pelvis even after the expenditure of considerable force, so tightly are they wedged. In the presence of such growths, delivery becomes im-

possible without artificial aid. On the other hand, too great mobility, possible in the presence of a long pedicle, may prove dangerous as it may lead to a twist of the latter. This complication should be borne in mind in the presence of sudden symptoms, as twist of the pedicle is known to be not uncommon in the pregnant woman, especially with ovarian growths.

(3) *Period of Gestation.*—Pregnant uteri, the seat of fibroid changes, may be divided into two classes according to the viability or nonviability of the fetus. So great are the chances of miscarriage, where the complication under consideration exists, that before the viability of the child the life of the latter should receive but slight consideration, as compared with the safety of the mother. After the sixth or seventh month, however, when the chances of a full term pregnancy are much greater, the interests of the child must be considered almost equally with those of the mother. In the early stages of pregnancy attempts should be made to lift the tumor above the pelvic brim, if it be situated deep in the pelvis and if it is producing pressure symptoms. If this be impossible, or if the growth cannot be retained in its new position I would unhesitatingly, if pressure symptoms exist, advise its removal. As regards choice of operation, the same rules apply as in the nonimpregnated organ, except of course the cavity of the pregnant uterus cannot be entered. Subperitoneal and even interstitial growths of considerable size can be removed and pregnancy be uninterrupted. I have reported recently a case of removal of an interstitial fibroid the size of a child's head from the lower uterine segment at the fifth month. The convalescence was normal and the pregnancy was not interrupted.

To my mind pressure symptoms are greater indications for interference than the size or position of the tumor. I remember distinctly being called in consultation some years ago in the case of a negress four or five months pregnant. The uterus was multinodular, the lobes sprouting out in all directions. It did not seem that a woman with such a uterus could be safely delivered. Yet the patient, refusing operation, went to full term and had an easy, normal delivery. I was not present at the labor, but her physician informed me that the various lobes were lifted over the brim as labor progressed and the child passed safely through the birth canal.

If labor has already begun and the position, together with the immobility of the tumor, makes it improbable that the fetus can pass through the pelvis, an abdominal operation is always preferable to the application of forceps or version. Nor should much force be used in attempts to lift the tumor or tumors above the pelvic brim. All of these attempts may easily be productive of laceration of the soft parts with resulting sepsis, or if too great force be employed, rupture of the uterus may result.

The number, size and position of the new growths will determine the exact nature of the operation, once the abdomen be opened. If there be but a single growth, and it can be removed easily, myomectomy may be performed and the labor allowed to continue by the natural channels. This would be the exceptional case, however. The choice would lie between Caesarean section and supravaginal or panhysterectomy. Caesarean section may also be combined with myomectomy; that is, the incised uterus may be closed

after enucleation of the growth. In the presence of multiple or unfavorably situated tumors, a panhysterectomy would be best.

OBSTETRICS IN GENERAL PRACTICE.*

F. A. GRAWN,
Munising.

The marked advancement that has been made in the science and art of obstetrics during the past ten years, is a matter of congratulation to the medical profession. Our best schools are giving the subject more attention than ever before; students are asking for and receiving more thorough work and increased facilities for practical training. In the larger cities all over the country maternity hospitals have been established where the conditions for the conduct of normal and pathologic labor are all that could be desired, and statistics obtained from such institutions show but a small number of gynecic cases resulting from labor, and a mortality almost nil.

Only a small percentage of all obstetric cases, however, are conducted under these ideal conditions; the vast majority have been, and will probably remain for some time to come, in the hands of the general practitioner, who finds obstetrical work in the environment in which he must conduct his cases, quite a different proposition from what it is in hospital practice.

Being myself in general practice, and having long been impressed with the importance of the subject of obstetrics to

the general practitioner, I was led to select a subject along these lines for this address.

It is to be regretted that the duty of the physician is so often restricted, in the minds of his clientele, to the mere treatment of existing disease, and that he is not more frequently given an opportunity of preventing the occurrence of abnormal conditions. The physician himself, who has perhaps seen several fatal eclamptic seizures which might have been prevented had he been consulted, has no question in his own mind as to the advisability of professional attendance during the entire period of gestation; and it his duty to the community in which he resides, to educate the public mind to the importance of this fact.

When engaged to attend a pregnant woman in her confinement, the physician should give the patient instruction as to how she may best prepare herself for the ordeal before her. Many otherwise well-informed women are surprisingly ignorant of the hygiene of pregnancy, and unless warned by the physician, may be led into grave errors by promiscuous reading and the advice of well-meaning friends. If assured that pregnancy is or should be a purely physiological condition, in which a close observance of certain hygienic rules is of far greater value than any medicine, the patient will be glad to cooperate with the physician by obeying his instructions.

Directions should be given for the proper selection of diet, clothing, and exercise; attention to the performance of renal and intestinal functions, regular bathing, etc.; and the importance of these details can not be too strongly urged upon the patient. The carrying into effect of

*Oration on Obstetrics and Gynecology read at the Annual Meeting of the Michigan State Medical Society, at Detroit, June 12th, 1903.

these preliminary precautions not only serves as a safeguard against the possible complications of the period, but also tends to increase the resistance of the patient against injury and infection during labor.

The physician must be on the watch for the appearance of abnormal conditions, and give prompt attention to such as may arise.

After the viability of the foetus a careful abdominal examination is advisable, and during the last few weeks a vaginal and external abdominal examination should be made, to determine position and presentation of the foetus, to detect any abnormality of the passages or passenger, and to make the obstetric prognosis.

Should it be found that conditions are such as may lead to a long, difficult, or dangerous labor, so that interference of some kind in delivery may be required, the physician then has ample time to decide upon the best procedure, and is thus the better prepared to conduct the case to a successful termination.

The knowledge gained by the proper study of the obstetric case before the onset of labor is of the greatest value to the physician in giving him confidence in himself, and affords him the means of saving many maternal and foetal lives.

In the conduct of normal labor, which is a natural physiological process, the role of the physician is usually a passive one, and seldom calls for active interference on his part. He must, however, do all in his power to allay the sufferings of the patient, and prevent injury and infection.

The value of anaesthesia in obstetric work can scarcely be overestimated, and there is no well-defined contraindication to its use. One who does not make use of it is negligent of one of the first duties of the physician,—the alleviation of pain.

The general practitioner is often called upon to conduct an obstetrical case in the worst possible environment of ignorance and filth, but even here he can always obtain plenty of hot water, and with the soap and disinfectants he has at hand can do a great deal towards securing practical asepsis; and surely he is responsible for any untoward results, if he fails to make the most of all obtainable facilities for mechanical and chemical disinfection.

It is estimated that about 50 per cent. of the pelvic floor injuries occurring in general practice are preventable by careful management at the perineal stage of labor. Primiparae, especially, need attention at this time and many troublesome and distressing sequelæ may be prevented by proper protection and support of the perineum.

Physicians too often look upon the normal obstetric case as a tedious and undesirable piece of work, but this, like everything else that is worth doing at all, is worth doing well; and "an infinite capacity for taking pains" should characterize the man who has this duty to perform.

With this brief discussion of normal labor, let us pass to the subject of pathologic labor, which presents many and great difficulties to the general practitioner, and is too often attended with unfavorable results. Many times he finds before him a difficult obstetric case, his patient lying in some poorly ventilated room among unsanitary surroundings, miles from consulting physicians, trained assistants, etc.; he must depend upon himself, and himself alone. All his knowledge, experience, judgment, and skill will be called into play; and if he has also developed the power of inspiring his

patients with confidence in him, which he can do only if he has confidence in himself, so much the better. Here he must know the conditions and make the most of them; then with a few well-selected instruments and drugs, a clear brain and a steady hand, proceed with the case before him and do his very best to bring it to a successful issue.

It is unnecessary at this time to enumerate the causes that give rise to difficult labor; these are well known to all. Nor shall I endeavor to present anything original upon this subject; what I wish to suggest to the consideration of the general practitioner has been given thorough tests by some of the best men in the profession, and I am convinced that the more general adoption of these measures would do much to facilitate the art of obstetrics in our state.

While anomalies of the powers and foetus are more commonly met with as a cause of pathologic labor, another cause that perhaps is not sufficiently appreciated in this country is the variations from the normal type in the bony pelvis. The complications of labor associated with these conditions are among the most important in the whole field of obstetrics. Much more attention has been given to the matter in Europe than in America as it has been supposed that deformed pelves were much less common here, but more recent researches and statistics appear to dispute this view. The frequency of this condition in America is conclusively shown by the investigations of Williams and Dobbins of Johns Hopkins; in 1000 cases of labor observed by them were found 131 cases of contracted pelves, and of these 46 were of such a degree as to necessitate operative delivery. They believe that

pelvic contractions are considered rare because they are not systematically looked for by routine examinations and measurements.

In speaking of a few of the resources at our command in pathologic delivery, I wish to discuss first the obstetric forceps, and to call your attention in a brief way to a comparison of the instrument in common use, the long forceps, and the axis-traction forceps.

The chief disadvantages of the long forceps are the inability of the operator to make traction in the line of the axis of the pelvis and the consequent waste of energy on his part, and the greater danger of injury of maternal and foetal tissues, especially in the more difficult cases.

By the use of the axis-traction forceps these difficulties are overcome to a large extent; our energies are exerted in the right direction, in the line of the pelvic axis, the operation thus becoming more in accord with the processes of nature. There is, moreover, less interference with normal foetal head movements, and less danger of compression of the foetal head. Thus may be seen the vast superiority of the improved instrument.

Objections to a more extended use of the axis-traction forceps have been raised on the ground that it is a complicated instrument and can be used to advantage only by the expert. The mechanical principle of the instrument may be learned by anyone who is willing to devote a little time and thought to the purpose, and a few trials in difficult cases will convince him of the fact that it is of infinitely greater value to him than the ordinary instrument, and will give him equal skill in its use.

It is the opinion of competent observers

that the newer instrument will entirely displace the older one, as soon as the profession is convinced of its superiority, and induced to give it a fair trial.

A valuable aid to forceps delivery many times is the Walcher position. In 1889 Walcher pointed out that by placing a pregnant woman on her back on a table with the hips at the edge and the legs hanging over so that the feet nearly touch the floor, a gain of $\frac{3}{8}$ of an inch is obtained in the true conjugate diameter. This change is brought about by a tilting downward of the ossa innominata by the weight of the legs, the pubic symphysis thus being moved farther away from the promontory.

In the most common form of brim contraction, the *justo-minor*, the small increase makes delivery more easy if forceps are to be employed, and in some cases may make a safe passage possible, when without it embryotomy, symphyseotomy, or Caesarean section might be called for. Moreover, in normal pelves when the head is delayed at the brim, owing to its abnormal ossification, its larger size, or to an occipito-posterior or face presentation, the Walcher position may give sufficient extra space to allow of a natural or assisted delivery. Then in cases in which the head is stuck above the brim in breech cases or after version, a similar advantage is gained. The Walcher position is of value further in that it relaxes the perineal tissues, and is an important gain in delivery of the head at the pelvic outlet.

There is no question that the use of the Walcher posture and the axis-traction forceps can diminish greatly the necessity for performing version, embryulcia, and symphyseotomy; but even then the

indications for these operations will sometimes appear.

The general practitioner should be prepared for such emergencies by a thorough knowledge of the anatomy of the parts concerned and of the indications and technique of the operations, by the possession of such instruments as may be called for, and by the development of as much skill as it is possible for him to attain in cases which may occur but rarely in his practice. The careful study of standard and contemporaneous literature along these lines will be found of much service.

Version is a valuable operation to the general practitioner, especially if he has but limited assistance. The indications for the performance of version are best fulfilled in cases requiring immediate delivery, such as eclampsia, placenta praevia, premature separation of the placenta, and the threatened death of mother or child.

Professional opinion regarding operations and procedures has its periods of ebb and flow. At one time an operation may occupy a large share of attention, and at another time be almost or entirely forgotten. The truth of this is well illustrated by the history of symphyseotomy, which in 1777 was so much discussed that the medical profession of France was divided into symphyseotomists and Caesareanists. Symphyseotomy has never attained any such popularity in America, but it is nevertheless recognized by the best authorities as one of the several useful aids for which we are indebted to the genius of past centuries, whereby a living child can be brought into the world and its mother saved to care for it. To the general practitioner this operation is more practicable than

Caesarean section under the circumstances that so often surround him, and even with slight assistance may yield him good results.

Whether Caesarean section, even when absolutely indicated in order to attempt to save the lives of both mother and child, should ever be performed without advantages equal to those of a hospital is a matter of dispute. Many operators prefer to sacrifice the child by embryotomy, rather than to risk the life of the mother by the Caesarean operation. The question is a difficult one to decide, for the deliberate destruction of a living child unless absolutely indicated, is a procedure revolting to the professional mind; while on the other hand, Caesarean section without every advantage in the way of asepsis and competent assistance means almost certain death to the mother. Since there is no absolute rule to meet all circumstances, the physician must decide each case upon its own merits, with all the deference to the wishes of the patient and her relatives consistent with his conception of his duty.

At the completion of labor, whether pathologic or normal, the duty of the physician is by no means done, and a watchful care of the patient during the entire period of convalescence is important to the normal progress of the case, in the interest of both mother and child.

The general practitioner must attain to a many-sided development, and is therefore unable to give the same attention to any one line that the specialist can; but I am confident that the study of Obstetrics receives less consideration at his hands many times than its importance warrants.

The Science of Obstetrics is in the hands of the scholar and specialist, and great is the work they are doing; but for

the status of the Art of Obstetrics the general practitioners of the country are largely responsible. That the development of the Art may be equal to that of the Science, it is necessary that each one of us should bear in mind the fact that while we must do our best today, our best tomorrow should be better.

EXCISION OF HEMORRHOIDS.*

WILLIAM L. DICKINSON,
Saginaw.

Hemorrhoids, either internal or external, can be successfully removed by excision, and in most cases with but little pain following their removal. In this brief paper I will endeavor to give my method of operating and also the after-treatment required.

External hemorrhoids should be made as nearly aseptic as possible by the usual means, and then injected with a 5 per cent. solution of nirvanine. Now grasping with forceps, we lift the hemorrhoid well up, and with scissors curved on the flat, cut the tumor off close to its base. Curette the base, using a sharp instrument, in order to remove every vestige of the hemorrhoid. The hemorrhage is usually slight and easily controlled by pressure with a gauze compress wrung out of hot water and applied for two or three minutes. If the compress does not control the hemorrhage, we put on a hemostatic forceps for a few minutes. When the hemorrhage has stopped, we unite the two sides of the incision with fine catgut, dust the parts with iodoform, and apply a

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sterilized gauze pad held in place by a T-bandage. It is well to keep the patient in the house and in a recumbent position for four to six days when the parts will be healed.

In the treatment of internal hemorrhoids by excision, we must prepare our patient for the operation by giving three improved compound cathartic pills two nights before the day of the operation; the next day give half an ounce of sulphate of magnesia in six ounces of hot water every four hours until four doses are given.

The morning of the operation an enema of plain sterilized hot water is to be given, and now we have the bowels so free of fecal matter that it will not be necessary to have them moved for three or four days following the operation. The patient is placed on the operating table and the anesthetic given. The anal region is scrubbed with synol soap, and washed with corrosive sublimate solution, and then with alcohol.

The sphincters are now dilated until all resistance is overcome; then we apply four of Pratt's T-forceps, handing them to our two assistants, who now pull down and outward upon them, thus exposing to view the mucous membrane of the bowel for a distance of an inch or an inch and a half. Each internal hemorrhoid in turn is grasped with a forceps, elevated as much as possible, and cut off with the scissors, curved on the flat, the long diameter of the incision being longitudinal to the bowel. Curette base of each hemorrhoid and stop the hemorrhage with a compress wrung out of hot water. We now dust the parts with orthoform, iodoform and boracic acid, equal parts, remove the T-forceps and pack the lower end of the rectum with a strip of iodo-

form gauze two inches wide and two or three yards long that has been lubricated with sterilized vaseline. It is better to use the vaseline on the gauze, as it makes it easier to remove it when necessary.

I have discontinued the use of a tube in the rectum for the purpose of allowing the blood to pass, for when the rectum is carefully packed with this strip of gauze, hemorrhage cannot occur. In twenty-four hours if the patient complains of much distress from the dressing, it should be removed, but as a rule it is not removed until after the expiration of forty-eight hours.

When the gauze packing is removed from the rectum, hydrogen dioxide should be injected, thus loosening the gauze, which is grasped with dressing forceps and gently drawn from the rectum; at the same time having a stream of warm sterilized water flow over the anus, thereby causing the patient but little distress in this first dressing.

Daily the rectum is irrigated with sterilized warm water; and then injected with one-half ounce of olive oil, containing five grains of iodoform.

The patient's bowels are moved on the third day by means of magnesia sulphate.

We do not bring the cut edges of the wound together with catgut in internal hemorrhoids, as the edges come together when the parts are dressed, and the stitches are quite unnecessary.

Hemorrhoids treated in this way are not very painful and it only confines the patient to the bed about one week. We use the pad and T-bandage after operation upon internal hemorrhoids, as it makes it much more comfortable for the patient.

The advantages of this operation are less pain and a shorter time confined to

the bed and house. I have frequently been asked the question as to the danger of secondary hemorrhage, and will say that I never had a case of secondary hemorrhage and have operated on a number of patients by this method. If we are careful to pack the lower end of the rectum tightly with iodoform gauze, there cannot be any hemorrhage immediately following the operation, and after twenty-four or forty-eight hours, when the gauze is removed, in my judgment there is no longer any danger of it.

DISCUSSION.

J. A. WESSINGER, Ann Arbor: I have 'really little to say in regard to the subject so ably handled by Dr. Dickinson. My work in this direction has been quite limited, and yet, perhaps there are a few things I might dwell upon for a moment. In the excision of external hemorrhoids I quite agree with what the doctor has said, but I would like to lay emphasis upon this point, and that is, not to be too careful nor too particular about the amount of integument you excise. It is remarkable how much integument can be excised in the excision of the external hemorrhoids, and still leave a so-called tag afterwards. I quite fear the most of us in undertaking this work are too careful here. I would recommend to be thorough in excising external hemorrhoids. The remnant from the operation will often give you as much trouble afterwards as the hemorrhoid did before. In the treatment of external hemorrhoids I must say I quite agree with Dr. Dickinson in his method. It is concise, clean, quickly done, and the result, if carried out—if carried out according to his dictum as laid down in his excellent paper—cannot fail to be successful. Personally, I must say I don't like the iodoform gauze. It is largely, though, a matter of personal opinion, as to that. A good many patients object to the odor, and there are other gauzes. Of course, we pre-suppose that all methods are aseptic, and I think any gauze, thoroughly sterile, will do equally well. The subject of hemorrhage after operation need not give us any trouble. I think that is a very small factor in the operation, if it is carefully and properly done.

L. J. HIRSCHMAN, Detroit: The doctor's paper, in the main, is largely in accord with

my views, with one or two slight exceptions. In the first place, as I understand the doctor, he grasps the hemorrhoid with the forceps, pulls it out as much as he can and then cuts it off with scissors. Now, it strikes me we might save a little more mucous membrane by simply making a longitudinal incision in the hemorrhoid, then by means of the sharp pointed angular scissors go underneath the mucous membrane, macerate the hemorrhoid and you will find you have totally destroyed it. It is not necessary to sew it. You have simply made a longitudinal incision instead of laying bare the whole hemorrhoid. In that way you have less mucous membrane to cover up. You have less healing surface, that is, less space to heal, and you will have no stricture. Very often when you have a great many external hemorrhoids to remove and you cut them all off, you are liable to have an entire circle of mucous membrane laid bare, but by making a longitudinal incision and going underneath the mucous membrane, you overcome all that. The doctor states he does not use a tube in his packing any more, to give free vent to any hemorrhage. I have always used a tube but never with the idea of giving vent to the blood. If you dilate the sphincter thoroughly, and after the operation put in a pad of dry sterilized gauze, you will find the contraction of the sphincter on the gauze will control the hemorrhage. I always put a piece of rubber tubing in the center of the gauze for the purpose of giving vent to gas. Immense quantities of gas will gather in some cases, where this is not done and abdominal distension result, and the packing has had to be removed early. But when using the tube, giving vent to the gas, the patient has been able to retain his packing very nicely. I don't believe in all this irrigating and dressing the rectum after operating. I think that it is meddlesome surgery. I find it best to leave the rectum alone and nature will heal it better. I leave it absolutely alone, even if the bowels do not move for four or five days, and there has been very little discomfort, and the rectum seems to heal by first intention.

F. W. ROBBINS, Detroit: I rather agree with what Dr. Hirschman has said in regard to the application of the tube, as this has been customary in my work. But I would like to call attention to one point, and that was mentioned by Dr. Wessinger, namely, the use of iodoform gauze. I, for a long time, have been one of those who believe that there was nothing to take the place of iodoform

gauze. I have heard in the discussions of these societies many of you speak of the use of iodoform gauze as a remnant of barbarism, on account of its odor, and I still could not make up my mind to discard it for something else, for iodoform seemed to be followed with better results, especially in urinary and cancerous conditions, than that of any other antiseptic powder upon the market. But today I want to express before you my change of mind in this respect in favor of another antiseptic. I do not know its formula any more than I do the formula of iodoform, but I know it has not the odor of iodoform—I am not engaged by any pharmaceutical firm to speak of this gauze or powder; it is iododisl. The iododisl is a red powder, and contains about 60 per cent of iodine. It is a powder, and is used as a gauze. It takes the place of iodoform better probably than any other antiseptic you can employ, and is certainly without any of the disagreeable features of iodoform.

W. F. METCALF, Detroit: I wish to say that Dr. Dickinson's paper brings to our attention a method that will give the patient less discomfort than the clamp and cautery method or the ligature method which have been so largely used by the profession. But there are a few points I wish to call your attention to that the doctor has not mentioned, and which might give some trouble to some one who operates from a knowledge obtained alone from the doctor's paper. That is, we sometimes do have hemorrhage, when hemorrhoids are removed in this way. Not perhaps if these hemorrhoids are confined strictly within the grasp of the sphincter, but many times there is prolapsed tissue, prolapsed mucous membrane. We have the arteries which enter the upper part of them severed, the mucous membrane retracts, permitting hemorrhage above the grasp of the sphincters. This should be recognized when we do not ligature. Many cases could not be successfully operated upon by this method, there is so much prolapsed tissue. It cannot be removed without cutting arteries which can be picked up as vessels can be anywhere and ligated with cat gut. Subsequent suffering is not increased in doing so. Where there is prolapsus of the mucous membrane, we find it a much better operation to bring down the mucous membrane and cut the diseased area off and then stitch its margin to the skin margin—but before doing so much discomfort will be saved the patient on subsequent days by cutting the longitudinal fibers near the margin of the mucous membrane, which will prevent much of the spasm

and contraction. Of course, in such an operation the rectum should be paralyzed by dilating. Occasionally you will find after dilating the sphincters thoroughly there will be a number of the fibers broken, and many operators have been held in disrepute, because of the inability of the patient to control the movement of the bowels afterwards. But there is no necessity for this, if the external sphincter be examined before the stitching is done. If there be a break in it it will be found at the posterior commissure and should be brought together with cat gut. Another important point is in ordinary hemorrhoids not to dilate the sphincters before their removal. Better open the rectum gently, cut off the hemorrhoids and then dilate. You will know definitely what you are doing, as you will see the tissues in their normal relations before you dilate. I do not think it necessary to keep the plug in the rectum so long afterwards, for it certainly stops the passage of gas. I do not find it necessary to put the tube in, and I am speaking from an experience of more than a thousand cases. If you think there is too much capillary hemorrhage, it is a good plan to insert a large plug of any kind of gauze which should be removed as soon as the patient begins to complain, after which hot compresses will relieve the discomfort. I have seen only two cases of hemorrhage following this method, and one of these was caused by the passing of a nozzle that was imperfect, four or five days after the operation, and one by an error of judgment, in failing to ligate an artery.

J. A. MACMILLAN, Detroit: My experience with excision of hemorrhoids, at least, my earlier experience was rather unhappy. I have found a considerable number of cases that, in spite of following the rules laid down in our ordinary textbooks, turned out unfortunately. I found out afterwards by a little treatment that these unfortunate conditions arose from the very thing that the doctor, in his paper has warned us against, at least, by not mentioning it. One important thing is the thorough dilatation of the sphincters. I think that is probably the most important feature in the control of pain. Although I have in one or two cases found patients complaining of excruciating pain after the sphincters had been thoroughly dilated, in spite of compresses and the application of heat. I think that the simplicity of the operation as described by the doctor is of great merit. I believe the less you put in the rectum after the operation is over the better, leaving in many cases the rectum without either plug or tube. It has been my custom in the last year or so to

simply cut off the hemorrhoids, dilate thoroughly, and if there is a wide area left open to simply bring the mucous surfaces together, with cat gut, and leave the rectum without any plug whatever. In such cases I have no experience with patients suffering from a great deal of pain, nor from hemorrhage, nor from difficulty from gas, nor from the passage of faeces. I think the paper very concise, and properly rules out a number of devices and appliances and paraphernalia that have been used in these operations, and have resulted in no good.

W. L. DICKINSON, Saginaw: I was very glad the paper brought out these remarks, because usually, we get a great deal more out of the discussion than we get from the paper. Of course, when we present a paper we present one side of it, and that is all. Now, I quite agree with Dr. Hirschman that we should not be too careful in the removal of external hemorrhoids; but if we err on either side let us remove too much. The fact of the matter is, I do not know that we can remove too much. Perhaps I was misunderstood about the application of the forceps. I meant to have said to take the T forceps and apply one on each quadrant, and then the assistants pull the bowel down. When the bowel is pulled down and everted we place the forceps on each pile, lift it up on the base in this manner. (Illustrating). Put our scissors around the pile, right down to the base and excise it. It seems to me there is not any necessity of taking off much of the mucous membrane; that is, say we have four or five piles, let us leave an isthmus of healthy mucus membrane between the piles removed, for in that way it will fill in, and we will not get a stricture of the rectum. I will admit that in some cases the patients do complain of gases. It has not been my experience to have patients complain from very much gas, or distension of the abdomen within the first 12 or 24 hours, but if I did I certainly would remove the packing, as I stated in the paper. And whether we use iodoform gauze or plain gauze I do not suppose it will make very much difference. And in regard to hemorrhage, that might occur if we go up above the internal sphincter and excise the vessels, without applying a ligature, and in this case we have a varicose and not really a hemorrhoidal condition and I would not think of making this operation on that patient, but an operation for prolapsed rectum. Of course, I did not mean to say to you, gentlemen, that this operation would apply to prolapsus as well as ordinary internal piles.

PREVENTION OF GYNECIC EVILS.*

J. A. PORTER,
Brooklyn.

The prevention of the injurious or dangerous is highly desirable, when such injury or danger has reference to human life or progress. At the present time much is said about diseases of women. Her peculiar diseases may give both skill and practice to a class of surgeons, but that does not offset the danger to women, nor to advanced civilization through her defective reproducing power and will. Two things stand out prominently in this commencing of the Twentieth Century, in so called civilized countries, needing remedy, change, or prevention, if possible. These two are the female diseases and the "Natal population decrease." These two things are related to each other in many respects but not in all. The successful prevention of Gynecic diseases would doubtless make some difference in natal number of inhabitants of any given country, but the natural number of births in such a country would also make a very favorable difference in the number of Gynecic ailments. I wish, therefore, to consider some measures or causes of Gynecic affections, which carry with their mere mention evident means for their prevention.

I think it is a matter easy to prove, that the income of the large majority of physicians would be made at least one-third less than it is if the purely distinctive "Female Trouble" could be pre-

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vented. This would probably be, valued in money, at an amount equal to \$65,000,000 a year in the United States alone, reckoned at a minimum. In other countries, probably fully as large an amount (if not more, proportionate to female part of population, such as England, France, and Germany) would represent the amount of suffering and expense of such a class of ailments. This amount of money, however, would only be an index to such an amount of trouble as afflicts humanity under this head. Any sum would not measure it, where sorrow, suffering and physical defects are considered. If, then, such a trouble could be prevented, how great, very great, would be the benefit to humanity!

Now, our sufferings, and more especially our bodily sicknesses, are produced by our own actions, at least outside of accidents and contagious diseases. And by contagious, I mean that class not produced by personal contact, such as indeed come through infected air. In the accidental I would also class such as yellow fever, ague and other like diseases produced by mosquitoes, flies, etc., and malignant diseases as well as injuries from falls, explosions, etc. So that, nearly all Gynecic diseases are caused by voluntary acts, whether performed to satisfy a desire or not. A few obstetric injuries and effects would fall under the class of accidental causes. But voluntary actions are the kind of causes I wish to present as causes of Gynecic diseases. These are also the cause in probably at least nineteen out of every twenty of such ailments. Now these injurious voluntary acts are not necessarily very many in number, and aside from the unusual, and of the pervert, consists mainly of two, namely, Onanism and "illegitimate sexual

intimacy" or so called "socialism." In the latter the accident of gonorrhoeal infection is always a possibility and a probability. This exposure to accident could be nearly eliminated by a voluntary refrainment from the gratification of sexual desire in this unlawful and immoral manner. In order to induce men and women to lead a moral life in this sense, laws are nearly useless, as enforcement thereof through any human court is impossible. The only way is to convince human beings that the danger is so great to them physically as well as morally, that they will give up the practice and teach the on-coming generations in plain terms that gonorrhoea and syphilis are practically incurable, and will eventuate in their death, preceded by unknown amounts of suffering. The people are fairly well persuaded of the great danger lying in syphilitic infections, but are not at all afraid of gonorrhoeal trouble. I know of many who only laugh at it, and consider it no worse than a common cold. They think themselves abundantly able to cure it. Do not even think it necessary to call in a physician. Again a large part of the infected women never do anything more than use an antiseptic wash and think themselves free from disease. This seeming indifference arises largely from the fact that they have at first little or no suffering, except when the microbes fall into the urethra. Only a discharge seems to trouble them, for which they use the syringe. Vaginal irritation does not seem to count for much. After a time the disease will ascend, and reaching the tubes, either a long, severe inflammation of great danger will follow, producing often death, or when it does not, it will produce sterility of its own effect or will occasion the need of a surgeon who will render the woman sterile, to cure her, by removing

the tubes and ovaries. Through ignorance thus comes death or sterility, in a very large number of these infected women.

During the earlier period, they are infecting a number of men, who also convey the poison to morally innocent persons as well as to those not morally innocent. This is passing on to such a degree that in our large cities the majority of women become infected sooner or later in life. thoughtful and careful medical men asserting that 80% of the inhabitants of any large commercial center are infected. Of these, the majority are men. Now, also we need to be instructed that whilst the disease is incurable in a woman to all practical purposes, firstly, because most of them do not know anything is the matter with them, while the poison is in the vagina; and secondly, because they believe that the after sickness is a visitation of peritonitis or salpingitis, or some other inflammation, for which they were not accountable or their husbands. Here life is sometimes lost through ignorance of the physician not knowing the necessity of an operation or how to do it. Sometimes through the woman herself believing nothing in particular ails her. I knew such a case as this: Husband was immoral, but believed himself cured of a gonorrhoea. He communicated the disease after his supposed cure to his wife. Salpingitis, etc., occurred. Physician did not understand surgical method of cure. Only medicine was used to combat inflammatory action. Woman did not know but it was a direct effect of weather, or visitation of Providence. Death followed with all its accompanying sorrows to husband and her mother and sisters, nobody scarcely even suspecting the real cause.

This is only a picture of what is occurring in uncounted numbers of cases. The connection of events not being known, or else forgotten. Again the man, as in the above instance, is often ignorant of the great difficulty there is in effecting a cure. He believes that there is no further infective probability when he sees no discharge from his urethra. But if he was properly instructed, he would know that he has a disease that is well nigh incurable. It is only after much care and prolonged treatment and often repeated tests, that he can be declared safe not to impart the disease to a woman. Thousands of wives, morally innocent, die every year from diseases given them by their "cured" husbands. In all these cases, the remedy is manifestly to instruct both sexes morally and intellectually. The latter that the danger and almost incurability of the disease may be known, and morally that the passion may not rule. It is especially necessary to instruct people that the ordinary signs and appearances are of no practical value in knowing whether a person has the disease or not, after once being infected. Also that it will continue with either man or woman in infective power for years, without any of the popular and so-called diagnostic signs being present. That it is among the most incurable of diseases. Much more so than is syphilis, and that is bad enough. Even this may pass on into the second generation and probably to the third and fourth generations. Gonorrhoea stops usually the generations, as it renders a large number, both of men and women, unfertile. The remote effects are more pitiful than the immediate, and less easily known. A wide spread training or education upon the immediate and remote effects of this in-

indulgence or gratification, and its incurability very nearly, is the remedy. The real preventative of the spread of the disease is to not indulge in impure sexual relations. It will happen to a limited degree doubtless still, but even the obedience to dictates of an educated common sense, and prevention of dangers incurred would, judging ordinary human nature, greatly overrule the passion that brings on the disease and spreads it about.

The second great producer of Gynecic troubles, and in all probability the most prolific cause, is the practice of Onanism, so named from the practice of the Son of Judah, whose name was Onan. An account of which see Genesis 38:9. Everybody nearly has learned to believe that masturbation is injurious, but do not seem to know that there is no difference in the effect of the two acts. Indeed, the Onanistic act is likely to be more injurious because of its frequency, and because of the greater energy used, in the case of the man; and also in the woman it will be very much more hurtful because of the male energy. So that if masturbation is conceded to be injurious, then we need only to know that Onanism is as bad along the same lines. It is the chief producer of vaginal congestion and non-specific irritation. The chief producer in the woman also of higher congestion such as uterine and ovarian. It produces more hyperplasia than anything else, with consequent displacements, leucorrhea, etc. It is the most prolific source of these minor pathological changes that are preliminary to grosser changes, such as growths of tumors of non-malignant varieties. No other cause operates so powerfully in producing these numerous troubles which give women a characteristic specialty, by which

we say in a proverb-like way, "nervous as a woman." Life is made a burden to herself and family. Husband pays medical bills to no end as it were. Hysteria and neurasthenia are very common, and so much so as almost to be regarded as the weather in its changes; natural, and therefore accepted as without question. It must be so, and receives very little sympathy from the non-afflicted. In point of number of pangs, and variety of complainings, this practice causes probably five times as much sickness as do the specific troubles in woman. In the men, nothing is noticeable for a time, but the large number of widows in any given town speaks for itself. So we might indeed say it is better to suffer than to die or go to an asylum. No other source is so productive of insanity and mental aberrations. No other means so productive of varieties of kidney troubles, such as Bright's disease of its different kinds; and, excepting rheumatism, heart difficulties. Anything that is necessarily so associated with a profound nervous movement in a man, as the production of living semen and the ejaculation of fertile spermatozoa, is wrought out by a mechanism that is so complicated, that it must indeed shock the organism profoundly, to in any way pervert its natural course in its functional action. The equilibrium obtained by the normal deposit of the semen is lost entirely by the Onanistic act, or when the "rubber industry" is upheld either. Neither condoms, rubber plug, nor any of these devices will make much difference in the profoundly injurious effect of the practice. Man's plans to defeat nature's ends will result in trouble to planners and practicers thereof in this sexual matter, as well as in any other. To live a life of dissipation, by

some plan to come out into a good end, will always fail. To steal and be honest—an honest thief—is just as possible.

Now the remedy is, teach the ignorant. Impress the indifferent or thoughtless with knowledge of the danger of this practice. It is practiced now by saint and sinner, rich and poor, white and black, more or less. Mere impulse under various restraints governs. Some do not wish the pains and restraints of child-bearing. Some do not want children disturbing the fancy articles of the house-furnishing. Some do not want to educate them, in the different degrees they imagine they would do if they had them. Some do not want to be disturbed at night. Some wish to earn money in some business or profession. Their wish and opinion is law as to the number of children to be borne; yet the natural law to this end is set aside, and one of man's own perversions substituted. If children are not wanted for any sufficient reason, then let the parties simply refrain from any sexual intercourse. This, for a time, is also just and right, but ought not to be continued permanently. At any time, however, natural seminal discharge should be made in nature's place and manner only, or indeed it is not a natural discharge, i. e., a natural sexual relation. And being a perversion, the penalties for such a perversion must follow. Statutory enactments are of no value. Doubtless a little benefit could be obtained to the nation by a system of rewards to those who have given birth to a certain number. The rewards proportioned by a sliding scale rule, regulated by the number of children, and by the age they attain to. That the practice is of national importance is very evident. For instance, in this country we had about 3,000,000

people in Washington's days. Had a normal and also possible reproduction taken place, there ought to be now about 24,000,000 of their descendants, but instead there is probably not 2,000,000. Did we reproduce as we could, and as we ought, our nation would not change its wise and tried managing blood, nearly every ten years. Our trained scholars, inventors, legalists, everybody who rises by systematical diligence to be useful and progressive, does not leave that quality of brain acquired to his country as its inheritance. He deprives his nation of this legacy not because of barrenness as is usually set forth, but because he would not. He would assign as his reason perhaps, that he could not take the extra trouble or care upon him. The valuable blood attainment is thus lost. The ranks are filled from the lower classes coming up to do the same thing. The civilized nations have progressed indeed, but each new nation as it has forged forward has been quickened by some such condition as our own. Its people come into a roomy place with such a degree of skill and acquirement as was possessed by their fathers, and the birth rate was not interfered with for may be a few generations. The skillful and energetic transmitted their powers to their children, and the nation went forward by leaps and bounds. Then came ignorant shirking of the care and responsibility that any valuable treasure brings; and then its loss as an inheritance. It is only replaced by the advance of those working up again of themselves. If it was not for immigration to this land of ours, in 100 years it would be largely a howling wilderness again. It requires the birth of five children by each couple to maintain our present population, without any increase; and

as the birth rate in the United States is only 2.3 per family, if I am not mistaken, it is evident that our population would decrease about one-half in every 33 $\frac{1}{3}$ years. But as an emigration has caused us to increase, from three to eighty million in 120 years, it follows that the foreign born, overrun the country, and become the governing class. And they have done this probably ten times in this century, one class after the other. Certainly we would consider if we had been outwardly overrun by war ten times, or even five in our last 100 years as a nation, that we were historically notable. Yet in fact, we have been thus overrun at least ten times. No wonder then that nations go down. It was so with the Roman government and practically by all others. England has maintained a high birth rate until in the last two generations, and she has stood, by transmitting her trained blood; maintaining sovereignty for herself, and sending out vigorous Colonies growing into great nations. But it is now failing from these Onanistic acts and she or any other in the same practice must go down, as it takes longer to produce from the low classes the trained blood than it does to transmit it, in sufficient quantity to maintain progress. One other thing ought to be taught, that it is a grievous error to say and believe that the world would soon be too full, if the birth rate was not checked. Ignorance teaches this. God, the creator, who made man, did not so teach. He said "Multiply." He furnished his treasure-house with as yet, unknown possibilities of profit for us. As we need them they have come forth. He knew what we wanted in reality and it is provided. All we need to do is go on and take possession. Lies were not plentiful

enough to disturb true men, in their own living days, but false prophecies must be promulgated to further disturb man's true advance and restfulness. So called scientists are also ready, and have been in the past, to teach error. A semi-scientist or philosopher named Malthus has even by regular argument, taught the vice Onanism as a necessary and proper thing to do. The food argument is brought forward as thus: The supply of food products is a limited one and consequently famine is nature's remedy, in correcting the balance between human beings and the supply of food. That human increase is so possibly great that there could not be produced food enough to continue them in such numbers. To this has been added a large number of other reasons, such as the individual man or woman will believe as best suits their inclinations and training. The belief that a child is such a trouble that it is a hindering nuisance, is the real belief. This sovereign power of reproduction, which is the crowning gift of creative intelligence to His living creatures, is now neglected, and also its avoidance is taught by the populace in some such a general manner as is care of ordinary functions of the body, such as how to properly care for yourself in defecation or the like. It is taught by one woman to another or to her own girls. It is also taught by one girl to another during school life. As also is done by boys long before they will have any use or opportunity to practice the lesson. Sexual indulgence, moved by a dominant sense, is well calculated to protect the race from extinction; but this very passion is to be gratified without the reproduction consequence intended by the Creator; and so the child is not desired by the unmarried. This has also passed

over into the married life, and now rules as the chief thought in the mind under the sexual relation of men and women. Proper limitations were set by moral law so that no sexual indulgence was permissible outside of marriage lines. The foolish and immoral of men and women, set this limit one side, but did not desire such a fact to be known by the birth of a child. Murder was the concealing remedy adopted. This sense and remedy passed over to the married life, not for shame but for the purpose that best suits them. Then came nature's penalties and so evident was the cause and effect on the number of children to be seen, and on the number of deaths of women, that a halt was made to a large extent in the murder progress. It would not have caused any less number of child murders probably to have it known in the usual uncertain rumor like way nor even by the assistance of legal penalties, when the act of murder for this purpose can be proven with reasonable certainty. Witness the actions and verdicts of juries in these cases, touching the willing parents' acts, whether married or not. Also see how seldom a villain, calling himself a Doctor and making his living out of fees obtained for committing the intra-uterine murder of the non-resisting infant, is brought in guilty by a jury. See how seldom he abandons the nefarious practice. The average man will declare that if he was on a jury he would not agree to a verdict of guilty in such cases, if it involved an unmarried girl. But the frequent death of the mother both in unmarried and in single states, has brought about an extensive change. Mothers and wives were guilty of going about and advising abortion methods. Telling those they called their friends how to successfully abort,

and often offering to aid them—all owing to this intense desire to be without children. Yet popular as they tried to make the crime and safe as they tried to make it, nature nevertheless would not yield a victory against herself in anyway of that sort. No plan ever invented of that kind was safe from the death of the mother. Yet they are still being killed. Probably, as a consequence of this undesired death rate, even by the criminals, a change is gradually working on. The sexual gratification is not to any great degree limited, or not at all. But the perversion of the act has been largely chosen by the people of civilized nations, known as Onanism. This has been, in those private teaching circles, declared safe and sure. But the dominant passion rebels at it to a large extent, and non-observance occurs with great frequency. It is safe to count however that not one child in three is born into the world amongst the civilized people willingly. It is actually a mistake, or rather an unavoidable mistake, they say. "I did not intend it, but well! it must be endured as it is too dangerous now to get rid of it," meaning dangerous to the woman. So another change is resorted to. Some use the male condom. Some use the female plug of one kind or another. So bold have the vendors of these things become, that they offer them for sale as commercial travelers do other goods. Now let us take a case by supposition:

A man marries, and before he does so he gets posted in the prevention. His wife does also. They may be supposed to be both healthy young people. Sometimes for various reasons they have decided to let nature have her free course for one child. Now comes in the limiting methods; one

or another is tried, to learn which is the most satisfactory, and this is changed more or less according to such kinds of advice as they may adopt. Usually the first disappointment is one of sensation; but the method is continued in some form or another. Presently the wife discovers that she has no pleasure and often comes to merely enduring the embrace. Then leucorrhoea is a very decided affection and ordinarily occurs, soon after the practice is commenced. Relaxation of the vaginal mucous membrane and tissues follow. Soon uterine congestion, with the heavy bearing down sensations of that trouble. Varied kinds of pains and aches, such as a pain behind the left shoulder-blade or in the left side. Later the back-aches with a dull, persistent ache. After a time matters are varied by headaches on top of the head, with a varied assortment of stomach troubles. These reflexes are called by the doctors, who are called in, dyspepsias, neuralgias, lumbagoes, etc., according as they imitate more or less successfully such diseases. Constipation is more and more aggravated and is started as a somewhat independent addition. The woman is a "constipated thing with a pain in its side," sure enough. This state is arrived at perhaps in two to five years according to the resistant power of the woman. Now or later she is fully open to more serious troubles. The uterine functions are so perverted that the care of the living semen is often not properly possible at those times of "making a mistake." The fallopian tubes err in their conveying power, and in some way not clear as yet, impregnation is apt to occur in the ovary or tube. Extra uterine foetation with its dangerous consequences, is one of the frequent things that now occurs in this class of

women. The circumstances are brought about as are the usual characteristic troubles of this unfortunate state by this Onanistic behaviour. Thus authors say "a long non-pregnant state is followed by a delay of a week or two in the regular course of the menses, at some one of the periodic times. Then the supposed menses appear with too great a volume. A severe colic-like pain in the vicinity of one or other ovary is felt, accompanied with a feeling of great prostration, or impending death-like feeling." There is intense pallor. Sometimes death does occur, because of the internal bleeding at the place of rupture. Either death, or operating surgeon to prevent is the choice. Sometimes several attacks of pain, etc., are borne before surgery is resorted to. Sometimes the rupture is fatal before the surgeon can put in his appearance. But it is a very dangerous state in any event. It is also becoming a rather frequent matter, because of the very general practice of Onanism. But if such does not occur in this way, then other troubles of the perverted organs occur. Cell growth is excited by the prepared vessels and nerves, in expectation of a natural requirement to produce. This natural channel for their activities having failed in its balance and purpose, active cells are misplaced and resulting fibroid tumors are the sorry imitation of normal pregnancy. All sorts of smaller or greater troubles now belong to such a family, in the person of a complaining invalid wife. In the history of such a family an occasional "fertile mistake" is made. Wife goes through a normal or nearly normal pregnancy. She may have a healthy, active child, but it is mentally impressed by the wild wish of the mother never to have another, and in its day it may, if it comes to maturity, go

on to again be a marked malthusien, if of the female sex. If a boy, he will hate children and seek to have a home without any; and so the family impressment is perpetuated until successful in blotting out the family name or that line of it. In the case of the wife, however, who went through the confinement, a change has taken place. She is made better since the "accident" occurred. Her chances were not so good as they ought to have been, but yet she may succeed in having a normal delivery to both herself and child. In such a case her life is as it were renewed. The pale face, fills out in rounder, more youthful outline. A better color is in her skin. Her eyes are brighter and the "closet of troubles" is for a time locked up as it were. She nurses and cares for her child. Now after a time again the old perpendicular wrinkles appear in the forehead between the eyebrows. Slight languor is felt. Irregular appetite; broken sleep. Valerian and its congeners are smelt about the house. In short, she is in the old line again and the "closet" is open. Hysteria and neurasthenia can be studied in that house again. In truth she is now with her husband more "careful" than ever and she indeed has the effect. The cause of trouble is laid on Providence or LaGrippe or anywhere again but where it ought to be. More or less certainty of the real cause has been learned, but will not be believed, because some woman who is as tough as "buckskin" does so, and is not hurt, she says. "Feed your baby whatever it likes best just as I did with 12 of them," says a "wise" woman to a young mother of one child, who is anxious to feed it just right and does not know how she fears. "Twelve, did you say? Well! How many of them did you grow up?" "Not one,"

says the instructor, with a sigh. "Well," says the young mother, "I will feed different from you did then." But unfortunately a similar wisdom is not acquired by either those inside or outside of experience limits, in Onanism. The same miserable life is again entered upon, but with variations of new miseries, of the old class, however. And on it goes. An accidental pregnancy betters things again, in the normal outcome of it, if such should be the course. The better health again continues for a time. Two or three may be all the family of "helpful accidents." If only one, and that should be a boy, it is not probable the world will be any improved by his reaching manhood. His petting and being kept in a girl mold will sour all the natural, manful, helpful, excellencies of his nature; and only the early death of his mother and perhaps also his father, will give him a show at all to be a true real man. The one boy family might usually as well be no child family, so far as humanity's interest is concerned. The one girl family is worse yet. The perversion gives opportunity to spoil a growing human being by errors in training. It is taught how to grow fashionable instead of how to work. It is taken out of native conditions, into artificial, on the wrong side, and reversed again on the right side so that where training is needed there is none, and where not needed, there it is done. This injury to children is a secondary consequence of the Onanistic course as practised for lowering the number of the family, but not quite extinguishing it. The girl is sent to school and is dressed, but is taught nothing of household work or any useful life art. It is an idol, as nothing else fell from "Jupiter" or the clouds to worship. She is not to be a

mother, as she only by accident rendered another woman that office. Some husbands will find a wife, only to know a confirmed malthusien as soon as she can practice that art, and one who is as nearly as may be only fitted by education and training for that. She and a husband brought to that kind of mind are after all giving forth publicly by their practice in Onanism, a declaration that we are not fit to send our blood any further; for indeed we are no good ourselves, and our children would not be any good, either; therefore we will just die out. And they do. And so nature does thus limit useless races by their vicious or unnatural practices. But the trouble goes on in our supposed couple's case. For after each "accident" they are more careful than before. And besides spoiling such children as they have by weak training and erroneous feeding and dressing because of the smallness of the real family cares, which regulate themselves by having enough of them, the man and woman are now turning from mid-life, toward aged life; and this aging with the former weakening of Onanism are now combined. The woman is a bundle of nerves. The distressing hired girl problem comes now in, as she either has no girls of her own trained in love and usefulness, or else only one who is schooled out beyond such a thing as doing household nursing and work, even for her mother. Indeed she is not rendered capable by either mental prenatal impressment or family training. She, herself, must be waited on. The vexing hired girl must be kept and she is getting more and more difficult to find. Misery upon misery is entering the family, and now comes the first trouble with the husband. He has headaches. His eyesight is failing.

His digestive powers are disturbed. After a few months he notices muscular weakness and mental indifference more or less, and applies to some physician, who examines his urine. It is now known that he must make an adjustment of his affairs, as albumenuria has seized him. Madame's trouble is now not being dominant any longer. She is a thin, poor, pale creature, but this great "visitation of Providence" is very wonderful on such innocent people, may be members in a church. Having been such good consistent people, why does God thus afflict them? But husband dies and she is now a widow and it is surprising how she picks up. Color comes into her cheek, brightness often to her eyes and in time she laughs again, and she tells people that "well, after all, the turn of life is a great trial, but I am now over it and feel better than I have in years." Even if she marries again she may not collapse, as age now renders Onanism no longer necessary. A maze of troubles are thus passed through, calling on the way "good, evil, and evil, good." until age may win out into a clearer day for the woman. Reasonable, healthy widows are very plentiful about the country. With some, of course, the road has been more rocky. Death has come to husband early in life from some other reason. Widow has married again, inside child-bearing life. Sometimes near end of such a life, and a child is only possible. Her story is then that she is so much stronger and more healthy than in time of her first marriage. She fails to note her more natural living in second marriage was accompanied by natural health, that unnatural sexual relations ruled in first marriage so as to bring sickness of the female characteristics. But

maybe she is young enough to believe when she gets her second husband that now she will have a man and no more "brats." Now she finds that the second family relation is more disappointing than ever. The old nervous productions, by having learned the nerves a bad habit, and by weakening their resisting force, and by exhaustion of their vital force, left open a more yielding door to new attacks of error and folly. A rest allowed recuperation, but now the vicious practice finds a subject more quickly overcome. Age lends help to the attacking party by various means. The heart becomes a very much disturbed factor. The woman complains so much of palpitation. A book would not be able to hold a description of her miseries. It would take a rather large booklet to even index the names of her distresses. Now, why does this state exist? Simply from a foolish perversion of one of the most wonderful powers with which human beings are invested. The digestive system, arranged to feed power and activity, or working and thinking force, together with a maintenance of the machine, is surprising and wonderful enough. Any continued perversion of the natural feeding process either in young or old results in defective action of the machine. If in the child, it becomes cross, peevish, weak or sick, in proportion to the errors made. In the adult, a sum of errors results in the "national" dyspepsia of the American male. If so small a thing as a cup of coffee is a positive injury to some, or a boy in a hurry drives an animal to the slaughter-house too rapidly, and it is made into beef in its heated, tired condition, and so is rendered dangerous as an article of food, we can well say it takes a very small thing to disturb our machine.

But if so in this limit, how much more so when the limit of work is raised to so high a function, as to make a duplicate machine with all the powers of itself for work, thought, existence and reproduction? Now call into activity such exalted powers as is necessary in such mechanism, touching material movements, and then its own wants; but move on into the region of the immaterial. Who is philosopher enough to tell us what is the real means by which this machine can produce a thought? And what delicacy of fabric and atom movement is there in a memory and a plan? Now, having passed into the unknown refinement of movement of this machine, governed by a mysterious higher spiritual power called a soul, if you choose, subject to the laws of right or wrong as set forth by a Supreme intelligence, you only see more and more in these higher scopes, the ease with which such a mechanism can be disturbed or injured. Even if you only see a creature of body and mind without any continuance into another life, yet the mental machinery is still so full of delicacies and intricacies, how dare anyone disturb a wheel in it by such a profound disturbance as to start up the reproductive functions and then after setting them in full run to a given point, defeat their correspondences and equilibrium making forces? A nerve storm must be the result, until the wonderful mechanism readjusts itself. But disturb and confuse it, overbalance it, and disappoint it, and what must be the result when done as often as is the Onanistic act? Only under such action can one result be promised, viz., the destruction of the machine, and its product before destruction, must be imperfect in some way. By no sort of coaxing can something be gotten out of nothing.

Nor can we make 2 and 2 to be 5. Nor will the human machine do anything not in its elements. Nor will it run in its course, without producing its kind in successful generations. Any attempt to make the machine run empty anywhere, in any of its performances or acts must result in injury to the mechanism and its own comfort and perfection. This is a certainty, whether the machine has to do with a spiritual nature or only a material. The material is the present one, and the one that gets nervous, uncomfortable or in pain, as we see and know it. If the person is, as I believe, to exist after this present organization of body ceases, then all the more is it a duty to care properly for the machine now, because of the still greater and higher and more unknown but multiplex purposes, it must have to perform in yielding up a soulful being, to its spiritual sphere and place and duty. Even if this life ends all, there is no reason for making it wretched by such perverseness as Onanism, and if it does not end all, then Onanism renders this one unhappy and non-progressive to its utmost power, and the next life more wretched through the never dying conscience. So then, no consolation is to be found in infidel or Christian belief, in support of Onanism. What shall be said, however, to that statement, that food is too scarce to supply human beings, if they did not limit reproduction? Very well, limit it if you chose, but by nature's method. Do not indulge in any sexual intercourse for such a time as will limit to your desire or purpose. There will be no failure in the method nor any injury for a reasonable time. But any limitation long continued would be injurious to us as a race, so that even the safe method of nature is of use only for limited times.

Man must be fruitful. It is the necessary law of his being. It cannot be set aside safely with permanence. Now as nature's creatures correspond in their relations and are in harmony with each other, and fulfill a law to each other when undisturbed, it needs must be that the dangers of a food famine are less than we would be taught by some. There probably have been no famines, but such as might have been provided against. The Famine of India in 1899 and 1900, we are taught by the observant of the British, must be an expected thing of recurrence very often, as long as the natives refuse to make ordinary irrigation methods one of their means of producing a food supply. Having a climate permitting two or more crops in a year, heat conditions alone must interfere with a continuous rain supply for ordinary food crop growth. But with an abundant water system, how simple to provide irrigation and so no famine. This or some other simple means is the answer to most famine balancings. Plenty of food would also avoid many wars amongst the uncivilized. Again, Onanism cuts off the food producer, because the ingenious and inventive blood is not transmitted thereby. It is the ingenious worker and inventive man that renders present agriculture safe and sure in the degree we have it. Where would the fish food supply come from otherwise? Where would the vast supply of beef, pork, etc., be obtained if no packing system was known? How would flour, meal and our cereals be obtained without thinkers and inventors? And as they did render possible what we have now to meet our food needs, so that a large city has fresher berries and fruit and milk than many of the farmers themselves. All farm products are now moved

even from one zone to another, in almost perfect conditions. The thinker is prompted to think by the suggestions of natural wants, but he comes of a stock trained by one of the thinking faculty for generations. If no generations of such, what of the future. Is it all thought out? No reasonable person believes it is more than nicely begun. All land is not occupied and much of it never has been by such as can produce for others. Only a small portion of earth's productive land for present known foods is fully used. The surface has only been fed a little with what is needed by it and not needed elsewhere. Nature has been interfered with by man; and he needs to know more and more, how to take out the elements and run them through the useful streams place of food supply, and pass them on to their ground location again, to repeat the process. All these elements will make a continual circulating stream if properly directed. The stream will grow in volume and power, the users being a means to return the needed elements to their place of recombination again. The more eaters, the more material to return, to produce more food for a growing number of people. I see no limit to food, or number that can be fed. It will necessarily grow as it has done, in greater variety and perfection, if thinkers could be had in sufficient numbers. The most fertile parts of the earth are producing practically nothing. If now the earth is feeding one and a-half billion human beings with present methods, when civilized methods are only used by one-half of them, and not in any full sense by even this half, what would it feed if even our most fertilizing systems were generally used? As for instance, in raising wheat we only raise about 12 bushels

per acre on the land sown with wheat. But it is possible to raise 240 bushels of it to an acre because it has been done in Holland.

Now see by known methods as at present that crops could be increased on the present wheat land to twelve times its present amount yearly. The increase of food under the limits of our present knowledge could be multiplied to supply at least ten times as many people as are in the world. With that increase, invention, if it kept its place as it has been doing, would do still greater things transmitted in inventor blood, and would greatly still exceed the feeding this number of mouths, for these only form a link in the chain of supply by their office of moving on the supply of elements, towards the supply factory in the ground. Utilization of these wasted elements is one of the ways to supply more and larger streams of food. What do we know of the discoveries yet to be, of the vast supplies in nature's storehouse, like the supplies of coal laid up for untold ages to come into use as it is now? Probably not more on the average than one farmer is needed to feed in the United States 200 persons. And he could by what we have shown, feed 2400 as things are now. And what would be the ability, when invention has reached its limit? All this, to say nothing of the land in its vast area not yet used at all. There is nothing in the assertion that famine is necessary to adjust the people to the food supply.

Again, it is thought the struggle for life is too great to add to its difficulties by care of children. Now a little keeping of books in the family, and an examination of balance sheets, if properly kept, would enlighten such people. If the expenses of the physicians who attended

Madam, were all set down in one sum, when such expense was incurred for some "female sickness," or some "nervous heart trouble," or some "inflammation of the bowels," and if the money spent for patent remedies was added thereto, in the endeavor to cure some ailments, or what grew out therefrom, it would make a sum so large that the care of children expense would look very small. If to this sum is added for the man, a funeral or two of wife and weakened child, that came by "accident" and was not properly cared for, the sum of expense would be much larger. Add the expense of hired girl and her wastefulness, and legitimate children expense account will begin to look small in comparison. Add yet the impossible in money measurement, of sorrow, pain, sickness and wild nervousness due to having no children, or only one or two, and then decide whether you can afford a family or not by comparison of the two sums! It is foolish to resolve first to make wife sick and then urge that she cannot care for a family because she is not well enough. A very large majority of invalid women are such, because of this Onanistic folly. Even for so mild a trouble as leucorrhoea, you need not look much farther in nine out of ten cases than to this method of child prevention. Indeed if people would use such common sense as they have, and increase their knowledge as even they can without expense, of the proper foods and drinks to use, and also cease to improperly satisfy sexual appetite, the health of communities would be increased one hundred per cent. as compared with present conditions. I doubt not but even a higher rate of health than this would ensue. For these two appetites are the cause

of a very large majority of our troubles of mind and body.

I think many divorce suits also grow out of unsatisfactory sexual relations provoked by Onanism. At all events, if we take for instance Michigan as reported by Secretary of State Warner, in 1902, we will see an illustration, I think. In 1901 there were 21,877 marriages and 2,218 divorces in the State, which is a little more than one divorce to every ten marriages. Of these, there were 1,074 who had no children, and in 531 there was one child. If we take the 1,144 who had children, we find all they had was 2,381, or 2.08 per family. Something is a cause that is acting in a general way; and incompatibility of temper and cruelty is a couple of terms that cover unpublished matters. If we throw out of the list the real and unavoidable, so to speak, it is liberal to allow 100 cases, but we may say 218. That would leave 2,000 divorces yet to account for. There were only 17.2 births among every 1,000 persons of the State. And at same time 18 marriages in same number, and 14 deaths. The natal increase was, therefore, 32 in a 1,000. Evidently immigration is necessary, for this 32 natal increase is made doubtless by the stock of emigrants who entered previous to this year, but are not yet citizens of the State. If we had the figures, I presume they would show for citizens a decrease of five or more per cent. These vital statistics are said to be the most complete and reliable ever compiled in Michigan. I have not other States at hand, but I doubt not but a poorer showing would even be the result, if I had them, for the whole country. If indeed the negro people of the South and the French-Canadian of the New England States were taken out, we would have a

decided decrease of the people so far as a birth rate was concerned, for it would not nearly meet the death rate. And how much worse would it be if citizens only were counted. And worse still, if only United States born parents were counted as the bearers of the children, and that rate also compared with the death rate of United States born people. In Michigan even with our large foreign born population, we have only 17.2 in 1,000 births, and if there is to be a larger number on earth when parents die, it is necessary that the 200 couples out of every 1,000 persons of the State should have five children per couple. Now, if 15 years will cover the average child bearing life of the average married woman, she ought to bear a child on an average in every three years, and the natal increase then would be only about 100 to 1,000 in 33 years, even with ten deaths to 1,000 yearly. Students of this branch of knowledge tell us that there would be no increase at the above rate, as in Michigan there were 14 deaths to the 1,000 during the year. They insist that more than five children per couple must be born during married life average time to produce any natal increase of population. Now the facts seem to show us that civilized people are not maintaining their numbers by natal methods. That a decrease of 50% would occur in all these nations (if natal cases only were counted) every 100 years. Here is something for the true patriot to think about. War is awful, but its destruction of human life, as represented by our late wars, is as nothing, compared with the births prevented by our adopted methods. To prevent a legal birth, or to destroy one now living, counts the same on the population rateage. One death and one birth balance each

other in the same enumeration. But the prevention of one birth from a trained stock, either in mental training, inventive training, or any progressive citizenship quality training is a vastly more important crime than causing one death of an average person in the State. I am now speaking of values, as I do not here estimate magnitudes of crimes. It is with hundreds of years' experience and training that such men as an Edison are borne and become active. Is it any crime in point of value to a nation or people for such a strain of blood to be lost and blotted out? How many Newtons were just possible by blood lineage since his day, but never appeared; just because these possible parents, right at these points, refused to generate. Onan may count them as his, for they are not nor were not, but the world got none of this valuable material that had been slowly built up to the point of possibility, and there a voluntary refusal on the part of the married couple to procreate, wasted all that preparation, and fooled the world of human beings out of their valuable product and rightful legacy. But all this is only on the side. The loss in moral strength by inheritance is important. The trained moral force, if they lapse in generative acts, lack something of moral quickness or they would not thus lapse. Any such waste or otherwise trained moralist's reproductive forces deprives the world of the morally strong by inheritance. Can it be struck any harder? Judge of the effect of this knowledge upon the young. No healthy young person is devoid of sexual passion. Moved by it as opportunity occurs, why should they not gratify themselves if no consequence of the public disapproving kind follows? When they

know the mode of life of their exemplars, such as their parents, why should they not follow them, and immorality be the result whether made public or not? Indeed such is the order of causation of many cases of disease in the young. I have known many instances myself. All physicians know such. Many doubtless occur that we do not know. Young men becoming neurasthenic, and young women hysterical, are strongly suspicious cases of such practices. Young women troubled with leucorrhoea, not otherwise easily accounted for, may with strong probability be put into this class of errorists. The money value and the moral value of a life is thus greatly injured. The money value of their time is so affected that there is an absolute loss of over one-half of the money worth of it, by disability of body and mind. This fully so, or more, when we add to such disability the absolute outlay of time and money of some one else to care for them, through medical services or personal aid and hired help.

Again this life is thought to be a losing one to the party who wishes to earn more money than he thinks possible for him to do if he raises a family. The rule should be, raise a family, one every two or three years, and you will raise money, all other things being equal. Because you will have less outlay for the unexpected sickness. You will be at work along nature's lines and in harmony with her works. You will have better general health. You will have a better head to plan with. You also will transmit a better head and health to the possible one or two you may bring on the scene as your heirs. The health of the wife will average much better with such children as nature allows, than by prevention methods' limi-

tations. The health and mental balance of the children will be better and the length of life of the husband will be greater, and his bodily health and mental health better. The children of small families are born without natural affection. The mental impressment is on them from the parents at the time of their generation. Each coitus is accompanied with the desire that, if put into words, would be, "My! I hope I will not get into any trouble! I hope I will not become pregnant. I do not want a child at all now." So where one of these "accidents" occur, that child is a nest of selfishness. It would in a large majority of cases give that mother or father no thanks or care in their possible need of help. It will show its parents no true affection. It will not attain to parenthood with any pleasure itself. I have heard such say, "I hate children," when they were small children themselves. This unnatural mental trait is pitiful. But it is a natural outcome of this purposive avoidance of children's generation. It is one of those evils that ruins homes and hurts any relation where love ought to rule. I once attended a mother in a case of miscarriage. I presume it was a case of self-produced miscarriage. It proved to be a case of difficulty. Mother was frightened at the result as it seemed likely to be. She did not wish to go into an untried eternity with that entrance introduction of an unborn child spirit accompanying her. However, the little spirit passed on alone to be her future accuser perhaps. She rallied before the foetus was removed from the house. She then wished to know its sex, etc., and at length wished it brought where she could see it. It was laid on the bed beside her. She uncovered its face.

It was perhaps a six or seven months' child. After looking at it a time, she got a pin handed to her and with it picked open its eyelids so as to open its eyes. Then she remarked, as addressing it, "Well, you little devil, you missed your mark. You thought you would come here to trouble us, but you missed it, didn't you?" Now, where was there any mother-love in that woman? She was a wife and a mother of three living children. With a mind like that, she never could bear a child who would have the normal measure of parent love in its make up. Nor need a mother go to such an extreme of child hatred as this, to still strongly affect the natural or proper stock of love or affection in her coming child. It is not the momentary affection but the minor amount she has trained herself into possessing, or the minor amount the husband possesses, that transmits the minor quantity to the child. A people without any affection we would despise. As expressed by many, "it is a being without a heart." Rather than be guilty of such monstrosities, better pass by the marriage relation, and of course any relation that moves one into such a state of mind as is here suggested. Any Onanist trends this way, and carries a trend into another state as undesirable. No Onanist can be a true mate in marriage. None of them can convey a proper mental equilibrium to an accidental conception fruitage. So the foolish vice is mischievous in the present, and tends to a trouble in the future, because a few are either born purposely, or accidentally, inheriting the sins of their fathers unto the third and fourth generations. So the people are unfavorably affected, to make good and legal or brainy citizens. The good that should be transmitted is

either perverted or not transmitted at all. Virtue is placed in a less and less secure niche. Immorality is made more and more easy, as it were, to enter a respectable place. Even the educated and virtuous Roman matrons of the later days of the Empire found it easier to enjoy a rational degree of freedom by registering themselves as harlots, or taking out a license to practice harlotry, than it was to live a life of outward virtue. They took out the license and did not practice. But as a multitude did, it was a time when immorality had usurped in a large degree the place and standing of morality. Onanism was then the method also. We may think that the people are too intelligent to reach a Roman standing. But let alone, Onanism will push the people to no better conditions, though its combinations may make even a worse result, if not the same. Even now we hear men argue that "adultery" is not possible to a real Onanist. This, he claims, because no semen is left in the vaginal passage. There is here a field for some of the class of preachers who are earnestly endeavoring to teach people their life work and duty. A study of the Scriptures where it touches the Onanistic practice, would be surprising to the people who profess to believe it as the word of God. The scripture is read and so *carefully* that its plain teachings are not observed. I do not intend to take the place of an evangelist or Bible instructor. Yet read and think on such places as Ephesians 5:11-12. Also same chapter, verses 3, 4 and 5. No Onanist treats his wife any higher or better in that act than if she were a prostitute and scarcely as well. Get a proper understanding of the word "idolator" in verse 5 and study the whole chapter. See also II Timothy

3:2-7 and II Timothy 2:15, and a multitude of others. There is no Bible endorsement for Onanism. There is a fearful outlook for that class of Bible readers and church goers who are practising this vile thing. A direct setting aside the wisdom and commands of God for a fancied wisdom of man's devising. But even common physiological teaching will condemn such a practice.

Look again at the value set upon children. By Onanism a few moments' gratification of the sense of pleasure is deemed the all important thing. The child, a creature of their own image and powers, is a "brat," a nuisance, a loss, a clog. It is to be thrown away, lost, killed, prevented. Anything, so as not to have it. And yet it is equal to their own life. In the right attitude of mind, it is more valuable than any other earthly possession. It is the means of transmitting name much more effectively than monument or work. For this will transmit yourself, as it were, through time and eternity. Without a child your name perishes. Without a child, properly associated with other children, parents do not exist. And without parentage, a man or woman does not reach their possibilities. They are themselves dwarfs in many ways. No woman without the birth of child love is wholly a woman. No man is a complete man unless he is a father, however complete he may otherwise be. No citizen is properly equipped as such, unless he is a father and contemplates the adjustment of things for the benefit of future generations, out of the born love he ought to have and ought to need to exercise upon his own flesh and blood. We have a set of teachers going about giving lectures to ladies only. Here we have a set of opinions set forth, made

to move women into the class of the dissatisfied. They are painted as slaves to oppressive man. Motherhood is only penalties and pangs. No reward is thought of. So much has this become the thought in the minds of some women, that no child is of sufficient value to be any compensation. It is a matter of imposition to teach thus. Pains are so necessary in our nature that the best physicians welcome them in their proper channel. No pain often means death. If no trouble to bring forth a thing of such infinite value as a child, and costing nothing, it would be worth just that. Mother, after it, would not care for herself, if there was no exhaustion or tiring effect. If it came into the world as does the urine, who would know where one hundredth part of them came from or where they went to? Even as it is, a very large number are born lost. The mother has no love for them, and casts them aside. How much more would it be done if they did not call loudly for witnesses? But now, when nature takes all this trouble, it is to mark an effort. And when she does so, it is a thing of value. In this case of such value, that the Son of God himself came to earth by the same route and lived and suffered and died as a man, in order that these valuable productions might be saved from eternal misery. They were worth, according to the mind of the Creator, enough to move Him to that infinitely great sacrifice of a death on a cross, as well as a life in our form and flesh, of His own Son to save us. Yet man has not learned to value this product that God cared so much about. Again, how does a family know that their son or daughter may not be next in line of some giant intellect, whereby this world would be blessed at large? A Newton, a

Watts, a Kepler, some general or legal mind, or philosopher or minister or physician with a Morton mind, or a Sims or McDowel thought power, would be a child that would throw back a blessing on its parentage as well as out from his life for his fellows' comfort. Teaching women to see only one thing, and that a necessary difficulty, and pressing that into improper light, is one of those wretched errors that perversness and ignorance are guilty of. If any man would be able to see the trouble and pain and difficulty there would be in making any voyage of discovery, in bringing into existence any great invention, in making any great discovery, in doing any new thing, then it would not have been done, and no more of these great things would come to us. The rewards of Columbus, the introduction of the steam engine, the weaving machine, or spinning machine are not what men are looking for as given in the first place to these introducers of these great epochal discoveries. A crowd with a rope waited on Ephraim McDowel at his first ovariectomy. She happened to live and McDowel was let go to teach the world how to save from death 10,000 women a year. The child is worth something, for all these men were once children, helpless babes.

Another folly we see often is the teaching that men are unfertile in this day amongst civilized nations as compared with men of other days and nations. That the low number of births is because of lack of generative power. These authors endeavor to make it appear that natal deterioration of a civilized people, like the French and English, is unavoidable, and thus favor the thought of what a great people we would have been if Providence in His divine power had only given us

greater procreative power. Thus, making out the trouble to be somewhere else than where it belongs. Put the blame in the wrong place. Blame God, instead of man. This is done for most all of our sicknesses and sorrows. I called on a sick mother, as a physician, one day. While I was finding out her trouble and its cause, her baby girl about one year old, came into the room, with a large ginger cake in her apron pocket and a medium cucumber pickle in each hand. It was eating this lunch freely. I looked at her in some surprise, which the mother noticed. She said to me, "Don't you think pickles healthy?" I said they are healthy so far as I know, but a child who eats them after that fashion, of that age, is reasonably sure to furnish occasion in the neighborhood for a funeral ceremony. This child did furnish such a ceremony in that neighborhood within one week from that day. This was a visitation of divine providence, you see! Causes of troubles are very poorly assigned by men. Birth troubles undoubtedly occur, but not all in the way usually assigned. Birth rewards are never classed in the right place or time. They ought to be associated with the act, and not in some 24th of May or 4th of July lion-roaring or eagle-screaming time.

Now, I would suggest as a remedy for this unfortunate condition of mind amongst men, whereby "female diseases" are all made so numerous, a few things that have been plainly indicated or mentioned in the foregoing pages. I would take means to teach more thoroughly the incurability and immorality of the "social custom" disease, gonorrhoea. I would endeavor to show that it was productive of sterility, and death in both men and

women. I would try to teach that Onanism is productive of almost all the remainder of "female diseases," and also a large amount of insanity, heart disease and fatal kidney affections, besides neurasthenia and hysteria. That it is a prolific cause of useless expense in every household. That it is a serious national loss in people of a good mental and physical strain. That it is a serious moral incubus, and a promoter of immorality. That it develops inhuman dispositions, and causes loss of natural affection. It promotes family troubles, increases divorces, and is a perversion of our great second appetite. Our two appetites make all, nearly all, of our troubles; but this sexual one is more difficult to handle, because men have fallen into the folly of deeming it unmentionable. Besides, teaching as physicians and religious people may, we may bring it about so that common people will teach properly, instead of perversely. Let a reward or system of rewards be adopted, as a government measure for the encouragement of large families. Pensions are given to men who went forth to destroy in war their fellow men. Let pensions be given to those who bring into being men and women successfully. Grade such pensions. A system of specific payments of money or lands could be made to those who give birth to more than three children. Surely such a system could be invented that it would be discussed. Secrecy is what is fatal to any proper thing. Adequate rewards for the successful production and education of a number of grown sons and daughters would be of much higher value and more sensible than rewarding a system of destruction of such a horrible kind

as war. Obtaining a living pension or tract of land, because of a successful turning out into citizenship a large family would be a thing to do good for getting good, on the part of the government. And it would be a reward that a family could be proud of obtaining, as it was good for them, and a good to the country at large. There would be an increase of intelligence, property, and numbers for these pensions. There is just the opposite for what pensions are paid for now. I know they are necessary and proper. But all the more so would it be to aid, encourage, and obtain the best things, and maintain our national existence in a better manner than is now done. It may sound Utopian to an Onanist to say such things, but these people see the worst in the best, and the best in the worst anyhow, and so their opinion is worth nothing. Their methods have overturned all the great nations of the earth, and will continue to do so for others who adopt fully that custom. It is overturning now France, England, United States and others. Russia is being built up by the opposite. England was made great by the opposite for a long series of years. Our own country was notably strengthened in her early days, but it did not long continue, and now we must depend on immigration of the active to take up our great wealth and vast privileges. Why not seek to save our incalculable losses of trained intellectual products, our inventive genius stock, as well as that of strong workmen and honest, diligent people. Save of the best and truest what is now foolishly wasted to our personal injury as well as to our injury as a nation. Do not seek so much to open up a way for the ignorant and less advanced to come into

our possessions as to make the competent blood safe to advance, and not materially hinder this other class either. Good of all is more easily wrought out than the profits of one class alone. A law forbidding some minor matters might be helpful, such as a heavy fine upon our selling condoms, plugs, or advertising abortifacients. This latter is not very dangerous, however, as they will seldom produce the desired effects. The owners only desire to make money by sale of medicine to meet a popular demand, as do all other patent medicine men. Such things usually have no desired effect upon patients except to extract some of his money, which is desired indeed by the vendors, though not this effect by the purchasers. But any such law would have but little helpful effect. It might restrain the young but would not the old. Even now eight states try by law to prevent the advertising of methods to prevent conception. Wrong actions will continue to be in this field as well as in others, but if we could draw attention to the damage Onanism is working, then discussion would so enlighten that people would take sides from a protective sense, rather than from such erroneous standpoints as they now do. The persistent will remedy the case themselves by disappearing from amongst men, and their name with them; but unfortunately will leave a mark of damage behind them. Its money value loss cannot be named, because the quantity of loss cannot be specified, as so many literary, inventive, legal or political blood and brain individuals of a high order. But the loss is self-evident, nevertheless, when we give the subject thought.

BILATERAL CYSTIC DISEASE OF THE KIDNEYS.*

H. E. RANDALL,
Lapeer.

I wish to present for your consideration a rare condition of the kidneys, a puzzling condition that is hardly explained by any theory of retention, new growth or malformation. The diagnosis of renal tumors is not by any means an easy matter. Its deep and hidden position and the encroachment of other large organs makes it difficult to make a differential diagnosis and when made it is only done by a process of exclusion; and yet even when a diagnosis of a tumor of the kidney is made it is still more difficult to tell with what kind of a growth we have to deal.

Bilateral cystic disease of the kidney is usually diagnosed by a post-mortem. Osler, in *American Medicine*, reported last year three cases, two of which he made a diagnosis from the following symptoms, which he calls characteristic:

1st. The presence of bilateral tumors in the flanks; other forms of bilateral tumors being excessively rare.

2nd. The condition of the urine, that of advanced interstitial nephritis.

3rd. Cardio-vascular changes of nephritis.

4th. Hematuria.

The first mentioned symptom, bilateral tumors, is pathognomonic. If a woman, she will complain of tightness or pressure at the waist-line. The urine may have casts and is increased in quantity. The cardio-vascular symptoms are those of in-

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terstitial nephritis—increased tension and hypertrophy of the heart, etc.

The hematuria is not a constant symptom. In the case I am about to report there was none at all. When present, it is usually intermittent.

Osler says that out of 28 cases it was present in 19 of them. It may occur in paroxysms.

Osler, in commenting on polycystic kidneys, says the disease is rarely unilateral, for out of 150 cases but 3 were unilateral.

REPORT OF CASE.

The patient was thin and emaciated, the appearance of a hard-working German woman. She was aged 55 years. Mother died between 50 and 60 years of age, having complained for years of dizziness and fainting spells. Her father died of cholera, aged 48. She is the mother of 8 children and during her pregnancies had some bloating at the ankles, otherwise confinement was normal. This patient was never sick until about four years ago, when she complained of being sick to her stomach, prickling feet, rolling of gas in bowels and pain in the back of head, and dizziness.

Dr. Tinker felt a tumor in the right side and advised an operation. She was in bed two months unable to keep anything on her stomach. Urine increased above normal in 24 hours. Two years ago the right foot commenced to swell on plantar surface, an abscess formed, was opened and healed up. She came to me in September last year, complaining of a painfully swollen right foot. I advised poulticing and she came in a few days after and I opened quite a good sized abscess on the plantar surface. She was thin and emaciated, and I gave her a tonic

to take. There was a slight fever; pulse was bounding. Twelve days before her death she was at my office complaining of sickness to stomach. I did not examine her abdomen. They called me two or three days after. I could not go and asked Dr. Taylor to see her. He told me he felt quite a large growth in right side near gall-bladder. He found her vomiting and passing increased amount of urine. He gave her an unfavorable prognosis. There was no oedema.

For the last five or six years she had been passing an increased amount of urine, and had to get up nights. The last four years she had complained of skirt-band hurting and had had vomiting spells. Complained of heart beating, feeling as though it would burst. Two days before death she was conscious enough to take the Lord's supper. The day before death was drowsy but could be aroused. Never sweat much. Skin dry most of the time. Goose skin commonly. During last week of sickness passed in 24 hours from three to four quarts of urine. The patient had four sisters; two aged 53 and 65; are apparently healthy. One, aged 61, is dizzy, sick to her stomach and much headache. One, aged 45, was insane for two months when 25 years of age, but is now apparently healthy.

Some of the cases are hereditary, while others are not. Three or four cases of Borelius were hereditary and one of Osler.

When we meet these cases how shall we treat them? To extirpate one kidney while the other is in the same condition does not appear to be good surgery. A much better procedure would be to expose both kidneys, puncture all cysts and drain.

Beck doubts the advisability of remov-

ing a cystic kidney, even when the other organ appears to be normal. He lost his case of nephrectomy. He thinks a better treatment would be to puncture, followed by injection of a drop of saturated solution of iodoform in ether for smaller cysts and enucleation of larger ones. It is not the cysts that kills the patient, it is the destruction of kidney substance—the accompanying nephritis. If Edebohls is right in his contention, stripping the kidneys may be of service; otherwise the treatment of chronic interstitial nephritis must be carried out.

DISCUSSION.

J. E. CLARK, Detroit: I should like Dr. Randall to reply in regard to the family history. It is generally assumed in these cases of cystic degeneration that there is something in heredity. I would like to know the doctor's experience so far as the family is concerned. Was there any case of hematuria in the family, or nephritis—any history of any renal derangement of any kind?

DR. RANDALL: None except the dizziness. I got no history except the dizziness in some of the others of the family, and headache. I could not say positively whether there was any heredity that would account for it or not.

DR. CLARK: I was interested in the doctor's paper; not only the fact that anything relating to renal diseases is of interest to the general practitioner, but also because recently I had a very interesting case of cystic kidney, and I will, as briefly as possible, relate the circumstances connected with it, which I think will be of interest to those here.

The doctor, in beginning his paper, made the statement that the diagnosis of a cystic kidney could only be determined by a process of exclusion; in other words, I presume, to exclude other tumors that resemble the tumor of a cystic kidney. Of course, in order to make a diagnosis it is absolutely necessary to exclude ovarian tumors, tumors of the liver, fibroids, etc., but I believe that aside from this process of exclusion there is a direct method by which a very close and accurate diagnosis can be made. I refer to a microscopic and chemical examination. Of

course, in tumors of this kind, in these cystic tumors, it is incumbent on the practitioner or the consultant whom the practitioner calls in, to determine the nature of the cyst, and it is well known that cysts differ physically and chemically in their contents; for instance, a cyst of the brain does not contain epithelium from the uriniferous tubules no more than from the bladder, and while there are on record instances of ovarian cysts containing some renal epithelium, it is so rare as to be a matter of too small importance to take into consideration in diagnosis.

An aspiration in the case of an unknown and unrecognized tumor of the abdomen should by all means be made. It is harmless and can readily be performed. If the tumor is of any size there will be no trouble in obtaining some of the cyst contents, which should be subjected to a microscopic examination and it would at once show, in the case of a cystic kidney, the presence of the renal epithelium. A chemical examination also will show present other constituents of the urine which will not be found except on very rare occasions in other cysts.

I believe it is within the power of the up-to-date surgeon and the general practitioner very closely and accurately to diagnose a cystic kidney.

About six months ago, I had a patient, a Mrs. D. R., whose family history was rather doubtful; one of the members, a young man, a brother, attended the University of Michigan and was a member of the foot ball team; he consulted me with reference to hematuria, which he thought originated and which did in fact, if not originate in, follow, a foot ball scrimmage; he recovered, and not very long afterwards a nephew of his whom I have under treatment at the present time, suffered from a nephritic condition, presumably interstitial nephritis. I have had the boy, who is twelve years of age, in bed for the last three or four months; he is apparently improving. Mrs. D. R. also had two sisters who occasionally had slight renal trouble. About two years ago she noticed a puffiness, or swelling, of the hands and ankles and a difficulty in removing her rings owing to a swelled condition of her hands at this time. She also had more or less headache and vertigo. She visited the Pan-American at Buffalo a couple of times during the year and although of a fine healthy appearance confessed to malaise as result. Early in the summer of 1902 she appeared to have entirely recovered and went to Atlantic City for sea-bathing in July and August and returned home apparently well. Her son took cold from the bathing and had acute nephritis and in October, seeing the nurse make tests for albumin

of son's urine, tested her own and in much alarm informed me she had more than her son. In a day or two she was taken with pains in the left side. A careful examination showed a well defined tumor, this increased rapidly in size, accompanied by temperature of 102. In the first part of November, I called Dr. H. O. Walker in consultation and it was determined her only chance lie in an operation for removal of cystic kidney. This was performed but she died a few days afterwards of uraemia. The cystic condition undoubtedly affected both kidneys but could not be determined by physical examination.

JOHANN FLINTERMANN: I am very sorry not to have heard the paper of the doctor, but I am able to report two cases which seem to support Dr. Clark's views as to heredity in renal cysts. In those two cases, two sisters died of cystic degeneration of the kidneys. A post-mortem examination was made. One was under the care of a physician in town, who diagnosed ovarian tumor. The post-mortem examination showed cystic degeneration of both kidneys. A few years later I was called to see one of the sisters of the deceased, and I made, having in mind the case of her late sister, a very careful examination, and I found that on both sides the kidneys were enlarged. This lady died with all the symptoms of complete renal insufficiency. I made a post-mortem examination, and the kidneys were degenerated to the largest possible extent: there was hardly any kidney structure left, so that I wondered how life was possible with hardly any renal tissue left. There is reason for belief of heredity in those cases, and we should inquire for heredity in all cases where cystic degeneration of the kidneys is found.

As far as aspiration is concerned, if we have a multiple degeneration I do not know whether we could gain very much satisfaction: whether a microscopic and chemical examination would throw light upon such a case.

There is considerable literature concerning degeneration of the kidneys. It is one of the most interesting topics in medicine, and I believe that it is not surgical treatment which would be of any avail. Cystic degeneration of both kidneys is absolutely fatal.

H. E. RANDALL: In regard to heredity, in the cases of bilateral cystic kidney, Borelius, of Stockholm, claims that all cases are hereditary. Osler, in his cases, and I believe he had some twenty-nine cases, claims that but three gave a history of heredity, and he believes the majority of them are not hereditary.

There is one point that I forgot to put in the paper and that is this. In the bi-lateral bulging of the flanks the tendency of growth is anteriorly and posteriorly, not so much in the side. While abscesses seem to point more to the side, these growths seem to have a more anterior and posterior development.

DISCUSSION*

Of Dr. H. W. Longyear's paper on Anti-Streptococcic Serum in Streptococcic Infection, published in the July number of the Journal.

E. BIGHAM, Grand Rapids: I think the doctor is to be congratulated upon the success of this case. I have used antistreptococcic serum in a number of cases and I have been decidedly disappointed in its use, in fact, I have practically given up its use. The main point, as the writer states in his paper, is the bacteriological examination, as antistreptococcic serum has no effect whatever upon any other bacterial form. The giving of the antistreptococcic serum, if you are sure of your diagnosis, and which could be made certain only by bacteriological examination, may be of some value in a purely streptococcic infection. I have used it in one or two cases which resulted in quite serious abscess formation, and used it with the utmost care in regard to the aseptic preparation of the patient. I have used it, I think, half a dozen or more times, but with no practical benefit. It leads me to the conclusion that there are other germs at work besides the streptococcic bacteria. I have a case in mind now on which I used it with seemingly little benefit. The patient was infected in some way before labor began, as she had a temperature of 101½ during the time of labor. No history of any *specific* infection, that I could obtain, and the streptococcic serum which I used in this case seemed of no benefit whatever. There was streptococcic infection, however, because a bacteriological examination revealed numerous bacteria. This was a case of mixed infection. I was reading an article a few days ago by Dr. Barton Cooke Hirst. He had practically given up the use of the antistreptococcic serum because of the other germs which were so often present and on which the antistreptococcic serum had no effect, and it led him to abandon almost entirely the use of it.

*This discussion was received from the stenographers too late for publication in the July number.

I think the cure of a case depends more upon the watchful, careful, and painstaking treatment of the case by the doctor, than upon the use of the antistreptococcic serum.

W. F. METCALF, Detroit: I was unfortunate in not being here early enough to hear all of this paper. I think, however, that this patient to which the doctor referred in his paper owes her life more to the careful and systematic and thorough treatment of Dr. Longyear than to the use of the serum. After treating many cases with the serum I gave up its use two or three years ago, but I wish to say that I have seen so much literature upon the subject recently, and heard so much about its success in the cure of purely streptococcic infections that I have decided to begin its use again. I was called a while ago to see a case with Dr. Hastie, and I was told that if another manufacturer's serum were used we would have better results. This case gave a history of having run a course of infection of about three weeks, temperature 100 to 103, with the other symptoms which accompany these infections. I forget whether a bacteriological examination had been made up to that time or not, but it was decided at any rate to have another examination made, and if streptococci were present we were to use the other serum. The serum was ordered. The next afternoon before the serum was administered the temperature went to normal. The serum was not administered. The patient's temperature did not rise thereafter. Had the serum come a little sooner we would have used it and ascribed the result to the serum.

I have a case at Harper Hospital in which I removed a kidney. A short time after an abscess in the breast started. The culture was almost purely streptococci. I simply washed it out with a solution of tincture of iodine and there was a complete recovery. Nothing else was done. If I had given the serum I would have ascribed the results to the serum. This is an interesting study that one cannot settle very readily. It is one upon which many must work, and there are so many conditions to be taken into consideration that it will perhaps take many years before the matter is definitely decided.

H. W. YATES, Detroit: I think Dr. Longyear should be given much credit for the treatment of this case, not only for the skillful general manner in which it was carried out, but for his close observation of the apparent benefit accruing from the doses of the antistreptococcic serum administered. There seems

to be a satisfactory result where the proper dose is given. As Dr. Longyear has also well put it, I think we should bear in mind that in order to get good results from the use of the serum, we should not wait for two or three weeks nor for eight or ten days. We do not do that in cases of diphtheria; we get the results by obtaining the serum and using it upon the patient early, and I believe that the same thing obtains here as it does in the case of diphtheria. I have had a considerable number of cases in which I have used the antistreptococcic serum, and as some of the gentlemen have said, with practically no results. I have had some cases in which there had been an affirmative bacteriologic diagnosis of the conditions and yet getting no results. This may be explained on these grounds, it seems to me: The more streptococci are studied the more we find out that there are large families of them. I believe some man lately has isolated something like 30 species, eighteen, or at least half of this number, being found in the pathologic condition of man. Now if there are so many of these different germs, or rather different families of these germs, why would not there be many of the ptomains—different ptomains—and in consequence of that, isn't it probable that even yet the manufacturers have not differentiated this sufficiently or that in our bacteriologic examinations the families have not been differentiated sufficiently so that the pharmacutists can get at these different classes and give us the specific serum of that particular specie. There certainly are cases that respond to the antistreptococcic serum and there are certainly cases that will not. There are cases where we have the diagnosis made with the microscope and yet we do not get good results from the use of the serum.

I did not hear the first few lines of the paper and I did not hear whether Dr. Longyear cured in his cases. I think that is a thing which, if he did not mention, it might well be spoken of, because I believe we are using a dangerous means when we use the curette in these cases and it cannot be impressed too much that the curette here is a most dangerous instrument.

S. P. DUFFIELD, Dearborn: I have been indebted to Dr. Longyear for saving the life of one of my patients, although not a case of streptococcic trouble. Having studied the ptomaines in 1880 under Prof. Dragendorff, of Dorpat, Russia, and having studied thoroughly the effects of toxins upon animals, I have become convinced that a great many of these patients die through the lack of the country physician having

examinations made of the discharges and so on, and availing himself of the benefits of an expert in gynecology. We cannot cover the whole domain ourselves and it is our duty when we are handling in the balance a human life, not to consider 50 or 100 dollars. As you look upon the little family that is dependent on that mother, and you feel that you do not wish to precipitate that family into the expense of calling an expert from Detroit or from your nearest central place, I think, gentlemen, you make a great mistake, because some day or other when we stand before the Master, and even meet old St. Luke, the beloved physician, I think we will get the worst scoring that ever a set of men got, if we trust entirely to our own limited knowledge on the subject.

Every man has his tendency; every man has his fad; every man cries when these new matters come up: "This is a fad; this is so and so." I faced the music, when I was health officer of Detroit, in introducing the anti-diphtheritic serum. The newspapers, if you will recollect, at the time riddled me thoroughly, claiming that I was introducing "frills and fads," and yet that reduced the death rate of the city from 35 to 12½ per cent. At the end of that year I riddled them. I showed them that there was something in this anti-toxin serum. The Germans use the expression "ptomatin" nowadays instead of "ptomain." I noticed we use the term ptomaines. They claim the true term should be ptomatin, that that is better expressive of the poison that comes in. Medicine has expanded itself to such an extent that we must necessarily fall back upon the expert in gynecology, the expert in surgery, the expert in chemistry, and so on, and it is not to be expected that the younger profession as they grow up, and even the older profession, will try to get along without these aids. I, myself, would not take such a case without calling Dr. Longyear or Dr. Carstens, or some such man in counsel with me. If we, gentlemen, take that responsibility upon ourselves *alone*, it is nothing short of manslaughter.

A. F. HAGADORN, Bay City: I merely wish to speak of the local treatment that I have used for a number of years. Being where it is impossible to get a bacteriological examination of the patient's troubles, I have found this treatment, for some years, to be quite effective. I have discarded all applications that would coagulate any of the discharges or cauterize tissue. I have tried all of the different remedies that have been recommended from time to time, but for the last five or six years I have used just one

remedy, and that with uniform results. As soon as I find a rise in temperature or an indication of trouble, I use my speculum, and with a comparatively flexible probe and cotton I cleanse the vaginal canal and the uterus of all discharges until I get a perfectly clean cavity. Then I saturate the whole uterine cavity with turpentine. I fill it full and let it soak for ten, fifteen or twenty minutes, filling the vaginal canal with it until every vestige of discharge disappears and the whole part has a cleanly appearance; and from the use of that I have invariably got a reduction of temperature in six hours, sometimes from 104 or 106 to 100. Following it up I have, as a rule, with rare exceptions, cured my cases of what appeared to be septic trouble.

O. L. SEELEY, Mayfield: I can endorse what Dr. Hagadorn said in regard to the use of turpentine. Last year, at Port Huron, I believe, I heard Dr. Metcalf speak of the use of turpentine in these cases; since then I have been following the treatment, obtaining the same results which Dr. Hagadorn described.

T. S. BURR, Ann Arbor: Most of the discussion thus far has been upon the use of remedies for bettering the local condition. I think it is well to bear in mind that in puerperal sepsis poisons are being distributed through the system and that as an aid to the local treatment the use of a powerful eliminating agent, such as hot saline solution is of great importance, I have found in several cases a marked reduction of temperature following a subcutaneous injection of large quantities of hot saline. That is not a new remedy, but I wished to speak of it in this connection. Large quantities of this fluid can be injected under the breast or any part of the body where there is cellular tissue. If introduced at a high temperature from 115 to 120, the patient re-acts quickly and the effects, viz., reduction of pulse and temperature, with marked skin action, are promptly secured. I believe in washing out the poisons as fast as they form and preventing the patient from succumbing to what may otherwise be an overdose of the toxins of the bacteria. The apparatus is simple and can readily be made a portion of the obstetrician's outfit.

A. F. HUTCHINSON, Nashville: In connection with this disease, I am reminded of a treatment of infection by Klebs-Loeffler's bacilli in the days before the discovery of anti-toxin when we used all manner of local treatment with very little success; and I think if we bring the matter right down to its absolute cer-

tainties, we do not gain anything by our local treatment. I remember one case in which I had a pure Klebs-Loeffler infection in the throat. I was delayed in my diagnosis on account of the absence of symptoms. During that time I applied pure tincture of iodine to the part absolutely without any effect. But of course when I discovered the cause, the antitoxin very quickly cleared it up. If that is any criterion from which to draw conclusions in regard to the action of iodine on the streptococci infection you may take it for what it is worth. Where a person is using so many different remedies in such a diversified form of treatment you certainly could not draw any conclusion in regard to any particular one. In regard to what Dr. Burr has said, the history of this case certainly showed that the local treatment—in fact, all the other treatment, was not sufficient to wipe out the infection, because many days after the treatment had been carried out with *apparent* success, endocarditis, or pericarditis, or some affection of the heart occurred, and later than that, if I remember the history right, there was a phlebitis, which undoubtedly occurred from the distribution of these same germs through the body.

H. W. LONGYEAR: Abscess was spoken of as being produced by the use of the serum. With the present apparent exact methods of preparing the serum, with all the safeguards in regard to its being thoroughly aseptic, it does not seem to me that we need to fear any ill results from abscess if we are properly aseptic in our own use of it. I think perhaps in the earlier days the serum was not as carefully prepared as now. I do not remember of having had an abscess occur directly from its use. In the case I spoke of we had no abscess occurring from its use, but we did from the use of the saline solution, and there is no question but what it was due to a contamination in some way from the patient, because we had an abscess with all the appearance of an erysipelas. It appeared to be an erysipelatous inflammation; it looked exactly like it, and it was no doubt simply a local infection occurring through the use of the needle in making the puncture.

This subject of the mixed infections is certainly very important. We do have, very frequently, the other germs coming with the streptococcus and we must take that into consideration. We know, or at any rate, we believe, that the serum has no effect on the other germs, and even if the streptococcus is affected by it the others will not be, as far as we know. But still, the

other germs, almost all of them, are comparatively short-lived, and will take care of themselves, practically, with the other treatment that you are giving. If you have an infection from some of these other bacilli, you have not anything that is so virulent as streptococcus, and your ordinary treatment will usually eradicate them in a short time if you are diligent enough.

If you are not, they will be apt to give trouble. There is no question, as Dr. Yates mentioned, but that there are different varieties of streptococcus; that is, they seem to be different in the virulence of their action. I remember one case of late puerperal infection where the temperature was very high, and I took a culture, and afterwards swabbed out the uterus with iodine, and the temperature went to normal and stayed there constantly after that. The culture showed a pure streptococcus infection, but I was told it was of exceedingly slow growth, as it was necessary to wait several days before the culture developed, and it was apparently very weak; so I am sure there are different varieties of the infection. I am glad that Dr. Yates spoke of curettage, and I am glad he took the ground he did. There is altogether too much done with the curette in these puerperal cases. Unless your examination shows to you that there is something retained in the uterus, the curette is dangerous, and usually your douche will show you whether there is anything there or not. If there is a constant foul discharge after you use the douche, I think perhaps you may use the curette, but I believe a safer instrument is the forceps, which you can use without danger to the granulations that have been formed. If you take a curette and scrape the granulations you remove really nature's safeguard which she has thrown up to prevent absorption, and absorption will be rapid after its use. You certainly have no business to use the curette simply because you have an infection of the vagina shown by a membranous growth. Suppose you had an infection from gonorrhea, what an absurdity it would be to use the curette. By doing so you only lay bare the vital structures for more thorough absorption; increasing and not diminishing the gonorrhea. What it requires is a local chemical application without irritation, accompanied by systemic treatment. Dr. Duffield spoke of a case which I attended with him. There was a case where you might have jumped at a conclusion of sepsis from the symptoms, and have been dead wrong—and the patient, too, probably, from wrong treatment resulting! In that case the woman had a high temperature, headache, and so on, and because of these symptoms you might

think that she probably had streptococci infection and go on and use the serum. That has been done a great deal, where the patient had a high temperature and a foul discharge, and serum therapy blamed because of no results. The reason for this is that they do not make a bacteriologic diagnosis, and consequently start with a wrong diagnosis. In this case we did, and we found practically an antiseptic discharge. I said, "Doctor, we have no local infection; it is something else." We found it was due, if I remember right, to a condition of uremia, wasn't it, doctor?"

DR. DUFFIELD: Yes.

DR. LONGYEAR: After the kidneys and bowels were put into good working order the temperature subsided. I think we have to use our reason in these matters of diagnosis and not jump at conclusions.

Dr. Duffield, being a country doctor himself, was allowed to speak disparagingly of the country doctor. But the country doctor has to be a pretty self-reliant fellow. He has to treat the cases himself largely. I believe if he will get down to this point of diagnosis and local treatment—not with instruments, but with those other things which he knows to be safe—and give his time up and devote his attention to saving that woman's life, and let the other work go, if necessary, he will usually be successful, and she can only be saved by his active efforts. The country doctor has to do these things in nine cases out of ten. If he is where he can call on someone who has had experience, so much the better, but if he can't, there are these things which he can do.

I am glad that Dr. Hagadorn brought up the matter of turpentine. I believe that it is a very useful antiseptic. I remember when it was first brought to my notice by the late Mr. Lawson Tait, of Birmingham, England. It was his boast that he used no chemicals, yet his results were good. He was not afraid of sepsis, but I noticed he had the assistants, who were to assist him at an operation, as well as himself, wash the hands with turpentine after they had been washed in the ordinary way. I consider turpentine a very excellent antiseptic and if used in the manner which the doctor suggested, is safe, because you are using it in an open canal; you swab it out thoroughly, then fill up the cavity, and then clean it out again, so that there is no amount of turpentine left to absorb and irritate the kidneys. If you were to leave a large amount you might get an absorption of turpentine so as to affect the

kidneys, but where you are careful about that I think it is a very excellent thing to use. The iodine and glycerine solution which I use is also safe. I use equal parts of iodine and glycerine; it has no irritating effect upon the mucous membrane and you can use it very freely.

The saline solution for transfusion, I believe, is a valuable remedy. Dr. Burr spoke of it. By the use of it you certainly assist elimination very greatly, and I believe it is a valuable remedy. In this case of mine we used it only once and in that case we had an infection from it, but I think it is useful. I saw a doctor's wife some time ago who had an infection and we found by the bacteriologic examination that it was due to the colon bacillus. She had been sick eight or ten days, and we used the transfusion with excellent results. As regards the serum, I have presented this for what it is worth. I am not as sure of its beneficial effects as I am of the diphtheria antitoxin, but I do feel from the experience we have had that we do get results, but they are of a different nature, and we must work upon that line. The serum, I think, works to fortify the system and to modify the disease rather than to kill it and stop it immediately, as in diphtheria.

IN MEMORIAM.

DONALD MACLEAN, Detroit, 1839-1903.

As we go to press we learn with profound regret of the death of Dr. Donald Maclean, of Detroit, on July 24, 1903. Proper respect will be paid to his life work in the next issue of the Journal.—Editor.

**The Journal of the
Michigan State Medical Society**

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Editor A. P. Biddle, 57 Fort Street West, Detroit, Mich.

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AUGUST, 1903

Editorial

**INTEREST NOW CENTERS IN
THE COUNTY SOCIETY.**

There are scattered throughout the State about two thousand eligible physicians who have not yet affiliated with their County Societies. With the advanced position in medical organization which Michigan already occupies, with its powerful influence for good on the profession wielded by the 1750 members already enrolled, with its Journal making monthly visits to the desk of each member, we should be able to go before these non-affiliated members with irresistible inducements for them to come within the fold; nor should we cease our efforts until all are in.

Secretaries of County Societies should begin at once to collect the yearly dues from members so that complete and accurate reports may be in the hands of the Secretary of the State Society not later than January 1, 1904.

It is the duty of each member of our State Society to see to it that his non-affiliated colleague is numbered within the fold at the next meeting of his County Society.

Now that the National and State meetings are over for this year, interest reverts back to the County Societies which, after

all, are the units, and where recent investigations and advanced ideas can receive more thorough discussion and careful consideration by those who are to make the practical application. It behooves each to make some personal sacrifice to attend the meetings of his County Society and to gather all possible information, either from theory or experience, that his neighbor may possess.

**THE RESPONSIBILITY OF THE
OFFICERS OF THE COUNTY
MEDICAL SOCIETY.**

The time has now arrived when it is incumbent upon the members of the County Society, and especially its officers, to realize fully the important part the County Society plays in the organization of the State Society and the American Medical Association. The membership of the State and the membership of the National body is dependent entirely upon the membership of the county organizations. Nothing is plainer; there is no other route to either society; and it was not unadvisedly that this step was taken, for it is believed from the knowledge of the character of the medical men of the county that they will rise to the emergency and elect for their officers men who will see that every effort is made to bring into the fold every eligible physician. A loss of one to a county may seem insignificant; but the loss of one member from each branch is a loss of 58 to the State.

No organization can be wholly successful without enthusiasm in its membership and the State Society expects of its members something more than a passive comprehension of its aims and purposes. It expects active co-operation and continual effort to assist in the growth of the or-

ganization, the enlargement of its field of usefulness, and the strengthening of its influence.

We would, therefore, urge upon the officers of the County Society to do as much missionary work as possible, urge that everything be done to make the meeting of the County Society of value to every physician of the county. We want every officer and in fact every member of the society to feel that the Journal is at his disposal. We want him to take an interest in the same, and shall be pleased to receive any suggestions and any news which may be of interest. The Journal is here to serve the interest of its members and we desire to be the representative of every county of the State.

We wish the Secretary to keep in active touch with every eligible physician of his county; to make promptly careful abstracts of all papers read at the meetings; to notify this office of the meetings of the County Societies as early as possible, of a change of address, of a death or removal of a member, and to send in the names and addresses of the new members; in fact to place before the readers of the Journal every item of interest.

A system of blank forms for a uniform method of transacting business between the State Society and the branches is now ready for use and can be obtained from the Secretary of the State Society at a nominal price, sufficient to meet the expense of printing and distribution, in accordance with the order sheet (Form F.). All business should be done on these blanks; the quantity wanted specified, and the order to be filled accompanied by the cash. Samples of the forms can be seen on page 387 of this issue of the Journal.

THE QUARTERLY MEETING OF THE MONROE COUNTY MEDICAL SOCIETY.

The regular quarterly meeting of the Monroe County Medical Society, held at Monroe, July 16th, at which the editor

was present by kind invitation, was ideal in its conception and management.

The greater number of the members assembled by 11 a. m. and betook themselves and their guests by trolley to a grove on the banks of the Raisin River. At first some committee work was attended to and by 12:30 the entire party sat down to as good a dinner as one could wish. After dinner the members went to the Monroe Yacht Club, beautifully situated upon the waters of Lake Erie, and on the veranda of this ideal spot the formal meeting was held. In calling the meeting to order the President, Dr. Sisung, of Monroe, spoke feelingly of the excellent work already accomplished by organization; told how already within a year a bill had been passed through the Legislature which will undoubtedly be a great force in the regulation and the elevation of the practice of medicine; how already much had been done to secure practical reciprocity among the States; how already the physicians of the county in being brought together had come to know each other's good qualities and to appreciate the value of each other's friendship. The papers were then read and discussed and the day was ended by a magnificent sail upon the lake. The day was indeed beautiful and the friendship formed under such favorable conditions must be enduring. It is in these small meetings, where one comes in contact with every member present, that the true value of friendship is learned and appreciated, and whence comes the incentive to greater effort and to greater things. It is here where the wants of the doctor can be learned and it is in the larger meetings and the larger organizations that they can be formally expressed and put into execution.

The Prevalence of Venereal Diseases in Michigan.

August 1, 1903.

DEAR DOCTOR:

In order to assist the Committee, appointed at the last annual meeting of the Michigan State Medical Society to secure data regarding the prevalence of Venereal Diseases in Michigan, will you kindly fill out the following blank and mail it to the Committee? In order that this work may be of value, it will be necessary that every member co-operate at least to the extent of reporting his own cases. It will enable the Committee to expedite their work if you will report at once the cases on hand, July 1, 1903. If you had no cases under treatment at that time, please report the fact.

If it is impossible to fill the blank completely, please do so approximately. If you do not treat venereal diseases, state the fact.

ALBERT E. CARRIER, M. D., Chairman, Detroit;

R. H. SPENCER, M. D., Grand Rapids;

JAS. F. BREAKEY, M. D., Ann Arbor;

Committee.

	No. of Cases	Male	Female	SYPHILIS Where Contracted	Previously Treated	REMARKS
Primary						
Secondary						
Tertiary						
Hereditary						
Innocent						
				GONORRHEA		
Acute						
Chronic						
Gonorrheal Infections						
CHANCROID						
Pathological condit'ns not classed above, but the result of venereal disease						
Approximate number of prostitutes in your locality		Suggestions as to the best means of preventing the spread of venereal diseases in Michigan.				

Reporter.....

Population.....

City or Town.....

TO GATHER STATISTICS REGARDING THE PREVALENCE OF VENEREAL DISEASE IN MICHIGAN.

The attention of the members of the State Society is invited to the request of the Committee to secure data regarding the prevalence of Venereal Diseases in Michigan. Please fill out the form to be found on the insert of this issue of the Journal and send it to a member of the Committee.

County Society News.

CASS COUNTY.

The Cass County Medical Society held their annual social meeting at Island House, Diamond Lake, on June 18th, 1903, when the following program was presented:

Paper on Social Relations—Dr. J. H. Jones, Dowagiac.

Paper on Business Relations—Dr. W. C. McCutcheon, Cassopolis.

Paper on The Doctor at Home—Mrs. O. J. East, Vandalia.

After the meeting a banquet was held.

O. J. EAST, Secretary.

IONIA COUNTY.

The third meeting of the Ionia County Medical Society was held at Saranac July 23, 1903.

PROGRAM, I P. M.

Business meeting.

Paper—Dry Labor, Dr. J. F. Pinkham, Belding. Discussion led by Dr. R. A. Clark.

Paper—Gonorrheal Conjunctivitis, Dr. C. G. Johnson, Saranac.

Discussion led by Dr. E. F. Beckwith, Ionia. Clinic.

Question Box—Dr. F. W. Braley, Saranac.

Paper—Management of Abortions, Dr. Richard R. Smith (Lecturer Fifth District), Grand Rapids.

F. W. BRALEY, Sec'y.

LAPEER COUNTY.

The Lapeer County Medical Society met at North Branch, July 8th.

The following are abstracts of some interesting papers which were presented before the society.

STRYCHNINE POISONING—REPORT OF A CASE—ABSTRACT OF PAPER,

BY G. W. JONES, IMLAY CITY.

In a girl of 17 years of age, who had taken strychnine with suicidal intent, Dr. Jones had good results by giving chloral hydrate hypodermatically. An attempt was made to wash out stomach, which was unsuccessful, as she afterwards threw up a quantity of beans which she had eaten for dinner and which the stomach tube failed to bring up. Vomiting could not be induced by ordinary emetics until apo-morphine was given hypodermatically.

Chloral hydrate by mouth and rectum, vomiting, and even chloroform anaesthesia did not control or stop the convulsions. One drachm of chloral hydrate was then injected hypodermatically, which controlled the symptoms, and she made a good recovery. As emetics and chloroform failed to control the convulsions, he is disposed to give the credit to the chloral injected. Some redness followed the injections, *but no abscess*. He afterwards saw a dog poisoned by strychnine, and to the surprise of spectators the chloral injected under the skin controlled the convulsions and the dog made a good recovery. He has tried it several times with the same results. Strychnine does not affect the mind, but it does exalt the functions of the spinal cord; chloral inhibits its actions and prevents death from fixation of the respiratory muscles.

ABSTRACT OF PAPER ON MEDICAL TREATMENT OF INTERNAL HEMORRHAGE.

BY C. A. WISNER, COLUMBIANVILLE.

Dr. Wisner's treatment for internal hemorrhage is large doses of the crystals of acetate of lead. The amorphous form is poisonous. While the treatment is not new he claims that it acts like magic at all times and has never had a failure. He gives from one-half to one teaspoonful dissolved in one-half to two-thirds of a glass of water and very seldom has he had to give the second dose. He has used it in hemoptysis, hematemesis, epistaxis and in post-partum hemorrhage in which it causes a quick and firm contraction so that the

patient that seemed to be passing on to a rapid dissolution revives and makes a good recovery. There have never been any untoward symptoms or conditions following the use of the drug. It however causes most cases to vomit. He advanced no theory as to its action in controlling hemorrhage. Be sure to use the chemically pure crystallized acetate of lead.

ABSTRACT OF PAPER ON DIPHTHERIA AND ITS TREATMENT.

BY O. J. THOMAS, NORTH BRANCH.

While Dr. Thomas was announced to give diphtheria and its treatment, he took up only its treatment. The efficiency of the antitoxin treatment of diphtheria is so thoroughly established that discussion on the subject seems unnecessary. In several epidemics he has used no local treatment at all, believing that the cases get along better without it. He gives all the antitoxin he is going to give in the first few hours. Of complication, broncho-pneumonia is the one most to be dreaded. It occurs especially when the larynx is involved, but may follow any case of mixed infection whether the larynx is affected or not. Heart failure is the most distressing mode of death from the physician's point of view. It may occur early or late, even after convalescence is established. Complete rest is urged. In renal complications diphtheria leads less frequently to general dropsy.

The degree of danger does not rise or fall with the temperature and neither does the amount of membrane present. Thickness and solidity is not bad in itself. A sudden rise of temperature may signify a complication in a distant organ. Paralysis is to be treated by strychnine and electricity. He prefers calomel in $\frac{1}{4}$ grain doses, repeated as necessary for cathartic action.

The greatest danger to the public is the mild cases. Always burn the antitoxin containers as the children will play with them and spread the disease.

ABSTRACT OF PAPER ON PNEUMONIA.

BY W. J. TAYLOR, OF BURNSIDE.

In the writer's opinion the increased prevalence of pneumonia is not only due to greater number of the specific germs, but the lowered vitality of persons who have been exposed to epidemic la grippe; 1720 deaths occurred in Michigan during the first five months of this year—more than from consumption, typhoid, diphtheria, scarlet fever, measles and small-pox combined.

Lobar pneumonia is the local manifestation of a specific infection by a diplococci said to be found in mouths of 20% of healthy persons, and which may remain in the saliva of those who have had the diseases for months. Lobar pneumonia is ushered in by a pronounced chill which is speedily followed by an elevated temperature. The patient lies on the affected side—pain is proportional to the pleura involved. Instead of dullness on percussion there may be a tympanitic note at this stage and at times the crepitant rale is absent, but when present is pathognomonic. In the stage of red hepatization, the auscultatory signs are dullness on percussion and bronchial respiration. The stage of gray hepatization appears to be the first step in resolution as the exudate is liquified by fatty and mucoid degeneration and in favorable cases is rapidly absorbed. The stages of pneumonia do not follow one another. One part of the lung may be in a condition of congestion, another that of red hepatization, and still another in that of gray hepatization. The disease usually terminates by crisis, but may by lysis.

Broncho-pneumonia is a disease of the extremes of life, always a secondary process from the bronchial tubes. Lobar pneumonia is the local sign of a constitutional disease! Broncho-pneumonia is a disease per se. Lobar pneumonia is usually unilateral; broncho-pneumonia always bilateral. In lobar pneumonia the temperature is high from the start; it gradually rises in broncho-pneumonia, but does not commence with a chill and develops slowly.

Treatment: Stimulate leucocytin by nuclein and salicylic acid. The latter drug is contra-indicated in the asthenic forms. Taylor recommends blood-letting during the stage of congestion, but says it is not popular. Blood-letting is a life saver if patient is laboring in the latter stages for breath, cyanotic, heart dilated; blood-letting followed by saline solutions to stimulate heart, skin, and kidneys, thus favoring the elimination of pneumotoxins. Use sponge bath with ice bag to chest in hyperexia. Quinine is the only antipyretic given internally. Stimulating expectorants are indicated. For the relief of cough and the pleuritic pain, to quiet restlessness, Dover's powder, or small doses of morphine are given. Food should be nutritious and easily digested. Quinine in tonic doses, muriate of ammonia, poultices applied to chest, mustard baths, strychnine when indicated, aromatic spirits of ammonia, etc., have their field of usefulness.

H. E. RANDALL, Sec'y.

MONROE COUNTY.

The regular quarterly meeting of this society was held Thursday, July 16th, at Monroe.

PROGRAM.

11:30—Trolley car to Johnson's Island.

12:00—Dinner with "Johnson."

Trolley to lake and meeting at Monroe Yacht Club House.

PAPERS.

"Some Observations on the Causes and the Treatment of Acne," Dr. Andrew P. Biddle, of Detroit.

"Anti-streptococcic Serum in Puerperal Septicaemia," with the report of a case, Dr. C. S. Miller, of Toledo.

"Gall Stones," Dr. Angus McLean, of Detroit.

GEO. F. HEATH, Sec'y.

SOME OBSERVATIONS ON THE CAUSES AND TREATMENT OF ACNE.*

BY ANDREW P. BIDDLE, DETROIT.

Acne, though exceedingly common, the most common of all skin affections, is one to which the profession at large, knowing that life is in no way endangered and that it is chiefly a malady of adolescence, to disappear with full adulthood, gives but little heed. Yet in my experience it is a disease which may persist for years and, while usually in no way detrimental to the general health, is not infrequently the expression of persistent ill health and so disfiguring as to be most repulsive to the afflicted.

It is not necessary to define the disease, or to go into a description of the symptoms; or to relate the different varieties named according to the clinical appearance of predominating characteristics, as they are well known to you all, except to say that in general acne is an inflammatory disease, usually chronic, of the sebaceous glands, especially the glands of the face, the shoulders, the sternum and the trunk; characterized by papules, tubercles and pustules, often single but usually commingled; most commonly met with between the ages of 13 and 30 years, between adolescence and adulthood. I except from this the so-called Acne Artificialis, due to the use of the bromides and the iodides and to the local use of such irritating medicine as tar.

The course of the disease is also familiar to you. Nor is the diagnosis difficult, except that

*Read before the regular quarterly meeting of the Monroe County Medical Society, July 16, 1903.

I would warn you that rarely an acute case of acne (due generally to the ingestion of medicine) has been mistaken for smallpox; and I would guard you against the not infrequent mistake of confounding acne, especially as found in large numbers upon the back, with syphilis. Acne rosacea is so closely identified with acne as to cause, effect and treatment as to require but little necessity of differential diagnosis. In the latter there are simply acne lesions in association with the dilated blood-vessels of the nose and neighboring tissues.

I would, however, invite your attention to the varied causes and to the remedies most usually found to be at least of some value. And in this I shall not make the attempt to go into the subject in a systematic text book manner, but shall confine myself more to personal experience and opinion.

With the advent of puberty the hairs all over the body, both the strong and the lanugo, take on increased activity; with this activity the function of the sebaceous glands, which function is to lubricate the hair and the skin, is accentuated; and with these changes come functional and inflammatory derangements. The sebum secreted by the gland becomes inspissated, due to the thickening (keratosis) of the corneous layer; the duct becomes patulous, sometimes obstructed, and the comedo is formed. The black head is supposed to be due to the pigment derived from the secretions, or to some chemical changes due to exposure to air and light, or to alterations in the process of secretion, the result of some constitutional derangement influencing nutrition. The mass acts as a foreign body and by its presence creates a soil favorable to the growth of micro-organisms; inflammation follows and the acne lesion is formed. Again errors of digestion cause chemical and irritating changes within the gland itself and create a favorable soil upon which micro-organisms flourish. Often, it is supposed, the presence of a mere lanugo hair is a sufficient irritant.

The inflammation begins either in or around the gland, may extend to the surrounding tissues, and often dermic abscesses are formed. The contents are usually sebaceous matter and tissue debris bathed in a sero-purulent fluid. If severe, this is followed by destruction of the glands, to result in disfiguring and permanent scars.

In an article entitled "The Etiology of Acne Vulgaris" in the Journal of Cutaneous Diseases for March, 1903, Gilchrist (Johns Hopkins University) states that he found definite bacilli, which he names the "bacillus acnes" present in all

smears taken from 240 typical cases of acne from 86 patients. He assigns this as the primary cause of acne and would lay strong stress on the local cause of the disease, attributing the constitutional disturbances so frequently met with in the chronic cases to sepsis from the continued absorption of toxine produced by the innumerable number of bacilli present in the acne lesion.

Except in cases in which there are large pustular formations, in which condition there is undoubtedly added to the "bacillus acne" a factor of local infection, I strongly believe in the predisposing constitutional cause; but when we see the disease in youths of great physical strength, in training athletes, the difficulty of finding a predisposing cause is apparent. On the other hand, in the anaemic and the tubercular, the constipated, the dyspeptic and the rheumatic, in the neuroaesthetic, the over-fed and the over-indulgent, we can at least find a plausible explanation.

That errors of diet, over-indulgence in indigestible foods, as beer, cake, candy, rich foods, tea and coffee, is accountable for some cases can be readily proven by the rapid return of the trouble when the patient has committed the indiscretion.

That circulatory weakness, gastric and intestinal disorders, menstrual irregularities and pelvic diseases, strumous and gouty diathesis, and many of the obscure reflexes, sexual over-indulgence and sexual abstemiousness, local irritations, as exposure to the heat of the cooking stove and fire furnaces, are accountable for the acne is exemplified by the improvement which takes place when it is possible to remedy the underlying cause. How these conditions cause the state of acne is not fully understood; but it is believed that "in a more or less lowered vital action of the skin the cells fail to carry through their process of fatty disintegration to a perfect result."

Though acne is a rebellious disease, still under a well-directed treatment very gratifying results can be obtained. Here, as in the case of all diseases, the cure depends in a great measure first upon our ability to recognize the predisposing cause and secondly upon our ability to remove it either in whole or in part; and I know of no disease which calls forth more distinctly the trained powers of observation, the knowledge and the skill of the general practitioner.

In the majority of cases the treatment must be both constitutional and local. The first step is to trace either directly or by elimination the source of the disease. There is little in the condition of the lesion to guide us, except that the flat, or slightly elevated, reddened acne lesion is most often associated with the anaemic and is

very difficult of cure; the acne limited to or most predominant upon the chin is concomitant with some irregularity of menstruation and is usually aggravated with the approach of the menstrual epoch; the acne found in the crease of the nose, extending slightly to the cheek, is dependent upon some gastro-intestinal disturbance, most frequently constipation; and the large, pustular, indurated acne is frequently mostly due to local infection and is the most amenable to treatment. So in a general way we must carefully regulate the diet, advising the patient to abstain absolutely from all food known to be indigestible, such as pork, veal, pastries, gravies, cheese, the excessive use of coffee and tea, candies, sweets, highly flavored ice-cream, etc., etc. In short the treatment must be directed to the probable cause as suggested by your experience as a practitioner after a careful examination of the patient.

As a routine treatment, if there is any tendency to constipation, I give the Ext. Cascara Sagrada, $\frac{1}{2}$ gr.; Ext. Rhubarb, 1 gr., and Ext. Nux Vomica, 1-10 gr. in capsule, three times a day. If necessary this may be varied with the many other laxatives, as the aloin, strychnine and belladonna pill, calomel, grey powder, in connection with the various alkaline waters. To the dyspeptic may be given as indicated the bitter tonics, the alkalies, the acids, pepsin, pancreatin, the saline laxatives and the alkaline diuretics: to the chlorotic and to the anaemic, iron, arsenic, strychnine and manganese; to the tubercular and the debilitated, cod liver oil, iron, strychnine, etc. I have never seen any benefit from the use of the Calx Sulphurata, though it was at one time extensively used in all forms of acne. In selected cases some benefit may be derived from the use of ergot and ichthyol and of sulphur.

In many cases, however, the routine treatment will not suffice and a deeper cause must be sought. That the acne is frequently reflex there can be no doubt and so, often, the treatment must be directed to the intestinal tract, to the irritable pile and fissure, to the uterine discharge, to the long foreskin, to the irritable bladder, to the sluggish bowels, to the displaced uterus, to the pus tube, to the functionally and organically deranged nervous system.

I consider local treatment to be of the utmost importance, though I do not agree with those who advocate it as the only treatment. In my mind there can be no doubt that the removal of the inspissated sebaceous plug removes an offending body; and, as in any other surgical case pus would be immediately evacuated, so here as a routine treatment I advise the physician, after rendering

the skin aseptic, to open up freely each acne lesion, to evacuate the contents, be they simply the sebaceous plug or the debris among the pus. This process must be repeated every day or two until the face is free from acne lesions and the treatment must not be left to the patient, but be done by the physician himself. I do this by incising each lesion with a sharp knife and removing the contents by the use of the extractor. Under no circumstances should the lesion be squeezed between the fingers.

It has been found that in all cases of disease involving the sebaceous glands the local application of sulphur is beneficial and so it is my habit to apply to the face every night, if it does not cause too much irritation, the following carefully prepared lotion:

Freshly precipitated sulphur.....	5 parts.
Freshly precipitated zinc sulphide...	3 parts.
Hyposulphite of potassium.....	6 parts.
Sulphate of potassium.....	6 parts.
Rose water	80 parts.

Especially is this of advantage where the face is oily and in large, pustular, indurated acne.

The primary pathological condition in the comedo and acne is a keratosis of the corneous layer; so that frequently it is well to produce a mild grade of inflammation by the use of the tincture of green soap, applied to the face every night, medicated if desired with 10 to 20 grains of resorcin to the ounce. Again, in an obstinate sluggish case massage, preferably induced by cupping, may be employed, followed by remedial applications.

I am not in favor of the steaming of the face; but I do believe that the tonic effects of the daily cold bath is decidedly beneficial; especially is this true of the acne of the back. In this latter case the bath should be followed by brisk rubbing of the back with a coarse towel and the application of the stronger remedies.

For years Dr. Geo. H. Fox, of New York, has advocated the scraping of the skin with the dull edge curette, evacuating the contents of the glands forcibly, following the treatment with the application of a soothing ointment of boric acid, calamine, etc. While this treatment will undoubtedly hasten the removal of the contents of the glands, it is in my opinion too harsh for general use; patients object to it. Again glands have been opened and the electrical needle has been applied to the individual lesion; carbolic acid has been employed in the same way.

Of late years ichthyol has come into use in the treatment of acne in the form usually of an

ointment, 30 to 90 grains to the ounce of cold cream or some other mild base; especially in the pustular form, often combined with the tincture of green soap, if more energetic action is needed.

And so many remedies might be brought to your notice. Their number simply indicates the obstinacy of these cases. The principle is the same; the remedies are antiseptic and more or less astringent; experience alone must be the judge as to their character, whether best applied in the form of an ointment or a lotion, whether stimulating or soothing. I would, however, urgently warn you against the employment for any length of time of any ointment to the upper lip or chin or to the lower part of the face of any young woman; its employment encourages the growth of superfluous hair, especially in one inclined to the growth of hair and who has already suffered from a long continued irritation from the disease itself, which alone is often sufficient to cause the unfortunate hypertrichosis.

At a recent meeting of the American Dermatological Association a prominent member stated that he had practically abandoned all other methods of external treatment than the use of the X-Rays and has had no reason to regret the results obtained. The use of the X-Rays in acne is based upon their power of causing atrophy of the sebaceous glands, destroying bacteria in the skin, and controlling the formation of pus. My experience has been favorable as far as the immediate result of the treatment is concerned; but sufficient time has not yet elapsed to determine the permanency of the cure. It is now well known that it is not necessary to produce a dermatitis to secure results and I would caution against the use of any but a weak light. I usually give exposures every second or third day, distance of the tube 15 to 20 cm., and have never caused anything more than a slight pigmentation, never except in one case the mildest reaction.

While most of the cases clear up, if they do not disappear, with adult life, many of them persist for years, especially the indurated type and more particularly as shown on the back, where are found the large dermic abscesses with unsightly scars. To meet with success in cases of acne the treatment must be persistent, extending over weeks and even months, much attention must be given to the detail not only of the external but of the internal treatment; the patient's daily life and habits must be thoroughly regulated. But when successful, and in the majority of cases we do meet with success, the results are most pleasant to the patient and to the physician.

MONTCALM COUNTY.

Some notes upon the meeting held at Stanton, July 1, 1903:

The day was beautiful, but the attendance was not large, owing to the fact, doubtless, that a large amount of "pressing business" must be done on that day; nevertheless what was lacking in quantity was made up in quality, for an excellent program was rendered.

Drs. L. S. Crotser, Edmore, and A. A. De Groat presented some very interesting clinics which elicited unusual interest from all present.

By the way, I may say that the clinics at our meetings contribute greatly to the interest of all our sessions.

Previous notice having been given, we changed the time of our annual meeting from January to October. This will enable us, each year, to render a complete report to the board of Councillors at their early meeting in January.

A communication from the Manistee County Medical Society, comprising a preamble and resolutions relative to the profession of Michigan demanding of old line Life Insurance Companies a minimum fee of \$5.00 for medical examinations, was received. After some discussion, owing to the absence of many members, the matter was laid on the table until the next meeting.

Dr. W. P. Gamber, of Stanton, read a very excellent paper on "Hystero-Epilepsy." This paper brought out a discussion by nearly every one present.

In the treatment of this malady the doctor emphasized more than for all other affections the use of "Suggestive Therapeutics."

The practitioner must, if possible, gain a mental ascendancy over his patient.

A paper entitled, "Is Foetal Deformity Dependent on Maternal Impressions?" was read by Dr. James Purden, of Edmore.

The doctor quoted many incidents in history which would seem to give an affirmative answer to the question. But this might not prove to be universally true.

In the discussion which followed there were brought out facts, which to the lay mind would be appalling.

Dr. A. E. Savage, of Gowen, read a paper on that old practical subject "Cholera Infantum."

This paper was instructive and interesting, and apropos to the present season of the year.

"Some Great Advances in Surgery" was the title of a paper presented by Dr. F. R. Blanchard, of Lakeview. We give brief abstract of the same.

In Abraham's time the surgeon was held responsible for the result of his operation.

If unsuccessful on a freeman, the penalty was that the surgeon should have both hands cut off; if a slave, he should replace slave for slave.

These extreme penalties were due to the fact that the ancients believed that good and bad fortune depended on the stars, and that the surgeon by operating on lucky days could insure success.

Failure of the operation was due, therefore, either to the surgeon's lack of skill, or his ignorance of the Astrologic influences.

Later on, as surgery began to be more of a science, the success of the surgeon depended largely upon his manual dexterity for, in those days, when the patient was immobilized with buckles, straps, and other apparatus, and many died of shock, the rapid operator was the one who was most successful.

Modern surgery owes its success to the discovery of anesthetics, Nitrous Oxide, in 1844, Ether in 1846, Chloroform in 1847, and Cocain in 1859.

Yet ideal surgery was not realized until the advent of antiseptics, due to the efforts of Pasteur, through his studies of spontaneous generation, when, in 1878, he announced his results to the Paris Academy of Medicine, which overthrew spontaneous generation and established a pathology founded upon bacteriology. All reverence to Pasteur and Lister.

Every progressive surgeon must have a thorough knowledge of bacteriology to appreciate its importance and must do practical work in the laboratory.

A review of operative surgery in a general way is given showing the wonderful achievements in surgery of the brain, abdominal and pelvic viscera, and disease of the joints.

Statistics are given to show the results of early operation for appendicitis.

As a resume, modern surgery owes its success to:

First—The discovery of anæsthetics.

Second—The knowledge of bacteriology.

Third—The discovery and use of antiseptics, and

Fourth—The knowledge of these making possible the exploratory operation.

The next meeting will be held at Greenville, Oct. 8, 1903.

H. L. BOWER, Sec'y.

ST. JOSEPH COUNTY.

The St. Joseph County Medical Society met at Sturgis, July 14. The attendance was not up to the average; but what it lacked in members it made up in goodness. Dr. F. W. Robinson, Sturgis, presided. Dr. L. K. Slote, Constantine, made an interesting report of the state meeting. Dr. F. W. Robinson's paper on "Fracture of the Surgical Neck of the Femur," with report of cures and demonstration of the pneumatic splint, was most interesting.

The society will meet at Centerville, Aug. 11.

JOHN R. WILLIAMS, Sec'y.

TUSCOLA COUNTY.

At the regular meeting of the Tuscola County Medical Society, held at Caro, July 13th, three new members were added to the society: B. C. Bradshaw, Mayville; T. W. Hammond, Akron; W. C. Meredith, Caro. The meeting was well attended, only two of the members being absent.

Abstracts of papers read:

H. A. Bishop, Millington, reported three cases of empyema. The first was of several months' standing and had been diagnosed consumption. The other two were acute, immediately following pneumonia in children.

One was very interesting from the fact that the empyema affected the right side of the chest, while the pneumonia had been in the left lung.

In the other case there was positive evidence that the pus had only been accumulating for five days, yet it was characterized by an abundance of masses of fibrin of large size, emphasizing the necessity for making a large opening in order to thoroughly empty the plural cavity, and contradicting the argument of some that the presence of these fibrin masses was proof that the empyema was of long standing.

All the cases were operated upon by resecting a rib, making a free opening through the chest wall and using a large double drainage tube. All made a complete recovery.

In the discussion of this paper it was pointed out that the exploring of the chest with a needle in suspected cases of empyema might often fail to make a diagnosis by the needle's getting plugged by the fibrin, and that the case should not be dismissed until several punctures had failed to find pus.

M. M. Wickware, Cass City, under the title of "A Post-Mortem Finding," reported a case that had been operated upon for appendicitis and, shortly after recovery, developed symptoms of an abscess—i. e. chills, fever, sweating and pain in one shoulder. But the abscess could not be located before death. An autopsy revealed it situated between the stomach and diaphragm. Dr. D'Arcy, in discussing this paper, mentioned a similar case, also following appendicitis, in which the abscess was situated beneath the sternum above the attachment of the diaphragm.

W. C. GARVIN, Sec'y.

A YEAR'S EXPERIENCE IN ORGANIZATION IN MICHIGAN.

DETROIT, MICH., June 20, 1903.

It is characteristic of the American to demand the test of experience ere accepting the dicta of science. Medical sociology affirms certain propositions relative to medical organization, but their acceptance is delayed for lack of experimental proof. As a contribution to this proof is the experience of Michigan during the past year. This experience began with the annual meeting, June, 1902, at Port Huron. Then, as a result of an exhaustive study of the situation, past, present and future, the Michigan State Medical Society unanimously adopted a new constitution and by-laws, in accord with modern methods. Officers were elected to carry out the details of the change. Some of the results may be catalogued thus:

The meeting of 1902 adjourned with a paid-up membership of about five hundred; eleven months later with seventeen hundred and twelve. June, 1902, it had no branches and scarcely half a dozen live county societies; June, 1903, it had fifty-eight branches, including seventy-eight out of eighty-three counties in the entire state; June, 1902, it had a cash balance of six hundred dollars; June, 1903, it had a balance of above one thousand dollars; June, 1902, forces of repulsion dominated the profession in Michigan; June, 1903, forces of attraction were everywhere in ascendancy; June, 1902, the study of scientific methods of organization awoke the hope that the Michigan profession might assume a place of beneficent influence worthy of the great state of which it was a part; June, 1903, found every member proud of past achievement in a work remarkable for its rapidity and thoroughness. June, 1902, two hundred and fourteen members were present at the meeting; June, 1903, this number had increased

to five hundred and sixty-two. June, 1902, much time was consumed, and annoyance experienced, by the necessity of applicants for admission being passed on by a committee; June, 1903, all members on the list of the branches were at once given a membership badge—a minute only being consumed and no irritation. In June, 1902, the society did all its business in general session; June, 1903, the business was divided thus: the council looked after finance, publication, organization, and judicial matters; the house of delegates dealt with all legislative matters, and elected all officers, except president, decided on the next place of meeting, etc., while the immense general body elected the president, listened to addresses, engaged in scientific work and social fellowship. The confusion and turmoil of former years was abandoned in favor of a system which accomplished the objects of the meeting, in a manner perfectly equitable to every branch, after the fashion of a scientific organization. Naught occurred to darken the face, or disturb the heart of any member—*per contra* smiles and good cheer brightened the assemblage all the days. In June, 1902, doubt and anxiety prevailed; June, 1903, evident results filled all with hope for the future. Experience had proved the Michigan organization a success.

Previous observations rendered it improbable that officers could be found who would give of their time, energy, thought, money and sacrifice of private business with liberality adequate for the needs of the situation, but Michigan's experience shows that a president, vice-presidents, twelve councilors, with a secretary and treasurer were found who failed not when the work was before them. As the society had no funds to pay their expenses, they individually met them, beyond the stipend of twenty-five dollars each to the councilors, nothing to president or vice-presidents, and naught extra to secretary or treasurer.

(TO BE CONTINUED.)

(*Journal*, American Medical Association, July 11, 1903.)

Communications.

HONORARY MEMBERSHIP.

Detroit, Mich., July 9, 1903.

Frank Billings, M. D., President The American Medical Association, Chicago, Ill.

Sir—I have the honor to inform you that at the annual meeting of the Michigan State Medical Society, at Detroit, June 11th and 12th, you were elected an Honorary Member of this Society in

appreciation of your work for the organization of the medical profession of the United States.

Respectfully,

A. P. BIDDLE, Secretary.

Chicago, Ill., July 10, 1903.

Dr. Andrew P. Biddle, Secretary Michigan State Medical Society, Detroit, Mich.

My Dear Dr. Biddle—I am in receipt of your letter of the 9th inst., announcing my election to honorary membership in the Michigan State Medical Society.

Please express to the officers and members of the Society my appreciation of the honor conferred upon me, and believe me

Very sincerely yours,

FRANK BILLINGS.

Detroit, Mich., July 9, 1903.

Henry M. Hurd, M. D., Johns Hopkins Hospital, Baltimore, Md.

Sir—I have the honor to inform you that at the annual meeting of the Michigan State Medical Society, at Detroit, June 11th and 12th, you were elected an Honorary Member of this Society in appreciation of your work in connection with the Pontiac Insane Asylum and the management of the Johns Hopkins Hospital and your superior attainments in all that pertains to mental diseases.

Respectfully,

A. P. BIDDLE, Secretary.

Baltimore, Md., July 13, 1903.

Dr. A. P. Biddle, Secretary Michigan State Medical Society.

My Dear Sir—I write to acknowledge with thanks your kind note to inform me that I have been made an Honorary Member of the Michigan State Medical Society. I accept the honor with sincere thanks. In Michigan I was born and educated, and while a citizen I did my best professional work. I can therefore say with great sincerity that a similar honor from any other State would not have the same significance to me. I feel as if I still belonged to Michigan and had a personal interest in her Medical Society. I congratulate the Medical Profession of Michigan upon their Medical Society and its deserved prosperity. With sincere regards believe me

Faithfully yours,

HENRY M. HURD.

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No. 9

Original Articles

THE BOUGIE-CATHETER.*

AN APPARATUS FOR USE IN GENITO-
URINARY SURGERY.

SCHUYLER C. GRAVES,
Grand Rapids.

Any continued interference with the normal evacuation of the urine is fraught with grave danger, directly or indirectly, to the life of the individual unfortunate enough to be afflicted with such a disability.

As a direct danger may be mentioned urinary infiltration with its attendant sepsis, and, as an indirect one, ascending nephritis.

The performance of the *sectio alta* in two stages, as recommended by Senn, emphasizes the reality of the former by a very successful endeavor to combat it, and the multiform procedures intended to remove the obstructions offered by an hypertrophied prostate aim at reducing the latter to a minimum if not altogether preventing it.

Eliminating the factor of defective urinary secretion with all the uremic dangers associated therewith, we know that retained urine, except in some temporarily

acute conditions, soon becomes a foul, offensive and exceedingly poisonous fluid.

Heretofore the various methods employed to carry out the principle of drainage after urinary operations, or, to put the matter in another way, to provide against absorption, have been either imperfect, or dilatory, or cumbersome, or associated with collateral elements which are in themselves threatening.

For instance, the ancient plan of draining urethral-stricture cases by the insertion and the tying in situ of a silver catheter all must admit is a surgical barbarity. It is exceedingly defective and therefore more or less actually dangerous. Again, the plan of Senn, to do a supra-pubic section in two sittings, consumes as much as five days of valuable time and, while safe, causes a temporal loss which ought to be obviated. The syphon plan of supra pubic drainage, endorsed by Dawbarn, while meritorious in a way, is cumbersome; limits the freedom of the patient, and becomes taxing through the constant attention demanded by the irrigating-jar. Finally, McBurney's method of independent perineal drainage with no regard to the distal side of the perineo-urethral wound is quite open to criticism, not from the view-point of drainage, because this is quite incapable of betterment, but by reason of the fact that accessory features, to be demonstrated during the course of this paper, present conditions not desirable.

*Read before the Section on Surgery at the annual meeting of the Michigan State Medical Society at Detroit, June 12, 1903, and approved for publication by the Committee on Publication of the Council.

It was formerly my practice to drain in urethral and bladder operations, except in cases operatively paralyzing urinary control, by the soft rubber catheter a demeure, but severe rigors, high flights of temperature and generally alarming symptoms were frequent concomitants of this method.

During the fall of 1896 I had the privilege of seeing considerable of the work of Dr. McBurney, at the Roosevelt Hospital, N. Y., and in his cases of a similar nature to the foregoing he drained directly through the wound in perineal sections, and through an independent perineal incision in cases of internal urethrotomy, leaving the urethral canal anterior to the wound unoccupied. He so acted, he said, because by this plan he could eliminate the chills, sweats and infective symptoms mentioned above and with which all surgeons are familiar. Recognizing at a glance the simplicity and apparent efficacy of this idea, viz: direct drainage from level of vesical floor plus syphonage after the tube becomes filled with urine, I immediately espoused it and found that in the matter of drainage it left scarcely anything to be desired.

This type of drainage, provided the tube is ample in diameter, is well nigh perfect and with it one almost never notes a chill or a rise in temperature to a point high enough to cause any concern. Generally it is not over 100° F. or 100.5° F.

But with this excellent record for drainage I soon noticed an accessory feature which called for eradication. In a goodly percentage of cases granulations would form about the proximal end of the excluded urethra, sometimes sufficient to completely block this orifice. Upon the passage of a steel sound, in such cases, the sound-tip would either come up

against an absolute bar or would be directed, more or less, toward the perineal wound. This showed me that something ought to be done to maintain urethral patency during the healing process. At first I tried leaving in this portion of the urethra a soft catheter passed per meatum and out through the perineal wound by the side of the drain, but this, while helpful, was not sufficient, because granulations would fill the triangular space at the base of the wound between the catheter and the drain and thus create a source of distress and even danger to the patient in their destruction or removal.

I saw the necessity for a double instrument which while affording means for the most efficient drainage would, at the same time, prevent any tendency toward a perineal fistula, and obviate the pain and risk incident to granulation destruction by the maintenance of normal urethral patency.

After various experiments, with the details of which I will not afflict you, I devised the instrument which I herewith



present. I realize that unity in construction would make a more ideal instrument, but the rubber men demanded so much for making a mould that I devised a coupler, by the use of which two rubber catheters, or, in adult cases, a small rectal-tube and a catheter can be united and made to serve the purpose admirably.

The drainage portion of the bougie-catheter must be as large as possible and

well fenestrated at the vesical end. The bougie portion could be solid, as its function is simply the maintenance of patency and it is not concerned at all with drainage or irrigation. I use a catheter for the purpose because, under the circumstances, there is nothing better.

After insertion the apparatus is held securely in position by suturing the drain to the lips of the perineal wound, a single suture, preferably of worm-gut, being sufficient.

With a glass connector a rubber tube two feet long can be attached to the distal end of the drain and led under the patient's leg to a waste-vessel at side of bed. Under these circumstances, with the leg propped up by a pillow to avoid pressure upon the tube, the patient can change position as often as he desires and read the morning paper as comfortably as his brothers who are fortunate enough not to be in need of repairs.

I leave the apparatus in situ for two weeks, occasionally irrigating with mild antiseptic solutions and, now and then, because of the tendency in some cases to develop ropy, mucoid urine, remove, cleanse and replace it.

Under this plan of treatment cases which have heretofore been the source of much worry to the surgeon, and, to say the least, considerable danger to the patient, pass through a generally uneventful and rapid convalescence.

In conclusion, and with the expression of my intention not to weary you by the recital of personal cases illustrative of the multiform types of disease in the treatment of which I believe this apparatus to be of value, I will close by a summary of the operative procedures in which the apparatus can be used, hoping that by the presentation of this paper I may add

something to the total of our knowledge which will be of value to my brother practitioners and, through them, helpful to our suffering fellow creatures:

1. Internal urethrotomy for stricture in spongy urethra.
2. Ordinary perineal section for deep stricture.
3. Perineal section for deep stricture necessitating intravesical or retro-catheterization.
4. Suprapubic lithotomy.
5. Transvesical cauterization, or other transvesical operative attack, for prostatic hypertrophy.
6. Plastic repair of penile deformity (hypospadias) or persistent traumatic fistula.

RAILROAD INJURY TO THE PELVIS WITH RUPTURE OF THE URETHRA.*

RALPH H. SPENCER,
Grand Rapids.

In Nicholas Senn's recent work, "Practical Surgery," I find the following: "Traumatic rupture of the urethra is an accident that belongs to emergency surgery and is consequently a subject of the greatest interest and importance to the general practitioner. It is strange, but nevertheless true, that most authors on operative surgery do not treat this subject with the necessary degree of detail and thoroughness for the instruction of the general practitioner."

Oberst's conception of the *modus operandi* of the trauma has been fully corroborated.

*Read before Section on Surgery at the annual meeting of the Michigan State Medical Society, at Detroit, June 12, 1903, and approved for publication by the Committee on Publication of the Council.

erated by experimental work of Terrillon. Pancet claims that not all ruptures of the urethra are caused by direct impact against the pubis.

Kaufman gives the statistics of the causes of urethral rupture in 239 cases, as follows: 82 per cent. were due to injuries caused by falling astride of some hard, sharp marginal object; 12 per cent. to blows upon the perineum; 4 per cent. to being thrown upon the pommel of a saddle.

Guyon (American Text Book of Surgery) says that in this accident, whether the cause is a fall or a blow, the mechanism is the same.

The urethra and the soft parts which immediately surround it are pressed and crushed against the resisting pubic symphysis whilst the superficial tissues, more supple and more elastic, escape or are scarcely involved.

Duplay thinks that in a certain proportion of cases the urethra is ruptured by a temporary dislocation of the symphysis pubis, the bones springing back into their proper relation after the crushing force is removed and leaving no trace of the accident except the urethral lesion. He thinks that this (rupture by traction) may also occur in case of fracture of the pelvis with displacement of a portion of the pubic arch, and it is, of course, evident that the urethral wall could also be wounded directly by a fragment of bone after such a fracture.

I have recently treated a case of this kind in which I think there was a temporary dislocation of the symphysis causing rupture of the urethra.

Late in the evening of Oct. 15, 1902, Mr. G. W. P., a railroad switchman, received the following injury: While riding on the step of a locomotive tender, the

engine in the meantime backing, he was caught between the tender and a stout post attached to a coal shed. The space through which he passed was six inches, the pelvis receiving the brunt of the squeeze as his body was rolled through this narrow place.

He fell to the ground, and was soon after taken in the ambulance to his home, where I saw him about an hour after he received the injury.

On examination, I found the patient suffering from profound shock. The visible signs of injury were abrasion and ecchymosis over both trochanters. A few drops of blood were dribbling from the penis.

External heat and morphine to relieve pain and shock were given. The bladder was not distended, as he had voided urine shortly before the accident.

On the following morning, Oct. 16, the patient was resting fairly well, but suffering from retention of urine. Thorough examination of the pelvis was made but no misplacement or crepitus was to be discovered. A soft catheter was passed and about eight ounces of bloody urine and some blood clots were removed. From this time until the 19th the bladder was relieved by catheterization every eight hours, some blood clots passing through the catheter each time. When an attempt was made to leave the catheter in the urethra, the eye would soon become clogged and necessitate its removal.

On the 19th, or four days after the man received his injury, I failed in passing the catheter. The patient was then ordered to Butterworth Hospital where, assisted by Dr. Richard Smith, he was anesthetized and several attempts made to relieve the bladder by catheter, but without success. He soon began to suffer from

over-distention, and operation by perineal section was decided upon. Dr. Richard Smith assisted, and operation was performed under the most aseptic precautions.

Operation: The patient was placed upon the table in the lithotomy position. A grooved staff was passed into the urethra down to the seat of the injury. A section was then made through all the perineal tissues till the groove in the staff could be seen between the retracted ends of the urethra, the proximal end not being visible owing to masses of coagulated blood, the removal of which caused considerable renewal of hemorrhage. Much time was now lost in trying to find the proximal end of the ruptured urethra. This was made more difficult from the fact that so much time elapsed since the injury. The ends were retracted into the ragged tissues. After diligent search, the proximal end not being found, and over-distension of bladder now being a prominent symptom, the question arose of doing the operation first advised by Dr. Brainard of a retrograde catheterization through a suprapubic opening or continuing the perineal section to the bladder without a guide.

The latter course was selected. Using a straight grooved director as a probe, I soon had the satisfaction of seeing urine passing through the groove. With a slender bistoury I enlarged the opening sufficiently to empty the bladder. A large catheter was passed into the perineal wound; also one through the urethra, both entering the bladder. The perineal wound was packed with gauze. This procedure relieved the patient's symptoms. Drainage was perfect, and the temperature became nearly normal. On the third day after the operation, Dr. S.

C. Graves saw the case with me and advised substituting an instrument devised by him, called the "bougie-catheter," which is a bifurcated catheter with one end of the bifurcation passing through the perineal wound and the other through the urethra, passing out at the end of the penis. The perineal portion was attached to rubber tubing passing over the side of the bed and into a pail. After using this device all the urine passed through the tube and the dressings remained dry.

In ten days the drainage tube was removed and immediately most of the urine passed through the urethra and the patient had control of his bladder.

The perineal wound closed within a week after removing the drainage tube. A sound was passed frequently for three weeks longer and the patient dismissed, cured. He was advised to have a sound passed from time to time, but, suffering no inconvenience, has failed to appear for that purpose.

It is now eight months since the operation and the patient still remains well with the exception of at times a slight numbness down the inside of his thighs.

The strange feature of this case was that a catheter would enter the bladder for three days after the urethra had been completely torn across or until swelling and blood clots had misplaced the ruptured ends.

The case seemed to me of sufficient interest to report somewhat in detail.

DISCUSSION.

E. B. SMITH, Detroit: The device as explained by Dr. Graves is unique and would seem to fill a want. Those of us who have operated from time to time find that we have certain conditions to overcome; the infiltration, the soiling of the dressings and the bed are features not to be overlooked. The condition that Dr. Graves spoke about in his paper, the want of attachment of the urethra, is an

objection that we have that makes a complication which renders it necessary to operate at a subsequent sitting. These and other conditions make a device of this kind necessary. The practical point that comes to my mind, is with reference to passing the instrument from the bladder through the penis. I think where you have an infiltration as Dr. Spencer spoke about, and some inflammation with that acute condition, it would require one with some dexterity to pass it from the bladder out through the penile portion. If that can be done, and can be done so that we do not have to have extensive manipulation, then the instrument, it seems to me, is an ideal one. It should be an ideal one in treating cases of cystitis in any form. It should be an ideal instrument where you have a deep stricture of the membranous portion of the urethra. In prostatic diseases where you are unable to remove all the prostate, it seems to me the instrument would be useful. The paper read by Dr. Spencer I think illustrates one point, maybe two. The first point that I saw in the doctor's paper is this: I do not think it is advisable always to empty the bladder after it has been distended for a period. If the distension is an acute distension it may be proper to draw off all the urine, but not if the bladder has contained the urine for a long time. The wound of the deep urethra I think should be taken care of as soon as it is possible to get the patient to the hospital where you can do your operative work. The wounds hardly ever heal without infiltrating the cellular tissue in the perineal space; so that it seems to me the proper treatment would be to make a perineal section. It can be done, it seems to me, by those of you who have done the operation with a staff; after you have done it once or twice, it seems to me, any one of you could do it without a guide; the finger in the rectum is sufficient—then provide drainage and employ instruments of this kind.

G. S. NEY, Port Huron: I do not think I have anything very valuable to add to what has already been said on this subject. I have had no experience with this particular form of drainage and fear that I can add nothing of importance to the subject under discussion, except to say that in attempting to enter the bladder without a guide, I have found that I can expedite matters by grasping the cut edges of the urethral mucosa on each side with a pair of artery forceps, and in this way gradually approach the bladder, all the time cutting between and a little in advance of the forceps on either side. It will not often be found that the urethral mucous membrane is completely obliterated and in the way I have

suggested, we can usually avoid straying away from the urethral canal. I was greatly interested in the papers presented by Doctors Graves and Spencer.

C. G. DARLING, Ann Arbor: I am very much pleased with Dr. Graves' explanation of his recent invention. We always hail with delight these inventions which are going to make urethral surgery less difficult, especially such as enable us to overcome some of the difficulties which arise in the process of repair. I was somewhat struck, though, with the paper which followed. The gentleman says he was obliged—or that he was not obliged, but that he used dilatation and used the bougie afterwards. Now this is not departing very far from the old custom when we do an external urethrotomy, using the bougie afterwards. While this instrument makes a very perfect drain and may to some extent lessen the formation of granulation tissue, I see there is in the minds of these gentlemen who have used it a fear of formation of granulation tissue or scar tissue and its contraction, thus forming a stricture. The length of time in which we should employ drainage from the bladder will depend very much upon the condition for which we drain. If it is for cystitis, the drainage should be kept up very much longer than if it is for urethrotomy with injury to the urethra. Where we have injury to the urethra and simply do an external urethrotomy for immediate drainage and have drained this sufficiently, which will usually be a day or two, we find that repair takes place in some cases without sloughing, and with the formation of very little scar tissue. In other cases where the process is prolonged for some time, we find this scar tissue, although there has been a large quantity of it formed and apparently closing the canal, yields very readily to the introduction of bougies, and probably gives as little trouble afterwards, as in the case where the continued drainage has been used as described. There are many things which might be said in favor of Dr. Graves' paper, but I will not take your time to discuss them.

ECTOPIC GESTATION WITH REPORT OF CASES.*

WM. F. METCALF,
Detroit.

Lawson Tait said that diagnosis before rupture was impossible. My experience

*Read before the Section on Obstetrics and Gynecology at the annual meeting of the Michigan State Medical Society, at Detroit, June 12, 1903, and approved for publication by the Committee on Publication of the Council.

leads me to think that it is not only possible, but in many cases easy.

From an interesting memoir written in 1840 by Dr. Wm. Campbell of Queen's College, Edinburgh, I learned that at that time the effort was to prevent rupture until the gestation was far advanced, when the event would not be so disastrous to the patient. He proved this by the report of many cases. He says "When uneasiness arises prompt effort must be made to allay it by the most energetic treatment, as the application of an adequate number of leeches, or the decisive use of the lancet, according to the habit of the patient. With the foregoing measures a full dose of the sedative solution of opium and absolute quiet and rest must be conjoined, when, by the abrupt cessation of pain, an exsanguined countenance, a sudden reduction in the energy of the vascular system and an increasing sense of fluctuation in the abdominal cavity, there is evidence of internal hemorrhage and formidable structural lesion, every effort must be promptly directed toward moderating the effusion and supporting the vital powers." He further recommends lowering of head, compression of abdomen, administration of powerful doses of opium, stimulants, application of ice to the abdomen, and heat to the extremities. He says: "Upon principle, therefore, the adoption of gastrotomy must be opposed until the excitement inseparable from gestation has subsided; the system of the patient has been restored to its unimpregnated condition, or nearly so; and nature has evinced a disposition to remove the extraneous mass." When the suppurative process is established or a breach is actually formed in the parietes of the abdomen, experience proves that the integument may with safety be largely incised

or the pre-existing aperture freely dilated, with almost certain success." He reports thirty such operations with twenty-eight recoveries. In contrast to this record he says: "Of nine women operated upon during the existence of foetal life, or soon after its extinction, the whole died." He speaks also of vaginal incision being safer in the few cases where it is applicable.

Whether extra-uterine fetation is an abnormal ectopic impregnation or is a detained impregnated ovum depends upon what point in the genital tract normal impregnation takes place. This is still an open question, the weight of authority however going to show that the ovum normally becomes impregnated in the tube. If this be true any cause which would interfere with tubal peristalsis might be a cause of ectopic gestation. Boldt in a study of 278 cases gives as causes:

(1) Contortion of the tube; (2) Small neoplasms or mucus polypi within the tube or neoplasms in the wall of the tube; (3) Pathologic changes in the fecundated ovum which prevents its migration; (4) Inflammatory conditions of the tube which prevent tubal peristalsis. There are usually found evidences of local peritonitis, the resulting adhesions causing kinking and ileus of the tube.

All authors agree that ectopic gestation occurs most frequently in multiparae and is often preceded by a period of sterility. This sterile period represents the time in which inflammatory changes in the mucosa may occur destroying the activity of the cilia. Franz says that we must seek the etiology in those affections of the tubes which have run their course, and which for a long time have prevented the moving of the ovum, have permitted a gradual and

partial restoration of normal conditions.

Some observers deny the possibility of ovarian gestation, but Leopold Patenko, Martin, and others report cases of ovarian pregnancy. Mayo Robson in 1898 spoke of primary ovarian pregnancy as "theoretically possible but not proven." Bland Sutton in 1897 says, "Until some specimen is forthcoming in which an early embryo in its membranes can be demonstrated in a sac inside the ovary, we need not trouble ourselves to discuss ovarian pregnancy."

The impregnated ovum may be arrested in the ampulla of the tube and be extruded into the abdominal cavity. It may be carried to the intramural portion of the tube and be extruded into the uterine cavity. It generally develops however in the tube proper and ruptures either between the folds of the broad-ligament or into the abdominal cavity. If development continues after it is driven out of the tube we find what is known as the secondary forms, either abdominal, broad-ligament, intestinal or tubo-ovarian. In 52 cases Veit found three recurrences in the same tube.

In tubal pregnancy which is by far the most frequent form, the vascularization of the tube is increased, but its muscle-fibers do not hypertrophy. Its wall becomes more and more thinned by the stretching. The mucus membrane becomes smoothed and the abdominal ostium may become sealed. The chorionic villi are easily detached causing the death of the foetus. Observers generally agree that the development of the foetal membranes is the same as in intra-uterine gestation, except that the placenta is more largely of foetal origin—Bandler says entirely so, that no decidua is formed. Bandler also says that the embedding of

the ovum and the development of the placenta is found to follow three fairly distinct forms: (1) The columnar, (2) the intercolumnar, (3) and the centrifugal. The cases which I here report are illustrations of the correctness of this classification.

(1) In the columnar type the ovum is surrounded by mucous folds only. Abortion is easy and of little danger. Very soon after the entrance of the ovum, tubal bleeding may result; the ovum dies and further hemorrhage expels it. The tube may return to its former state, or if the abdominal end be closed, a hematosalpinx may be formed.

(2) In the intercolumnar form the ovum may rest on the wall of the tube. Any tubal fold beneath it will be compressed. Other folds may form a capsularis which consists of mucosa alone. An intervillous space may develop. The villi at the placental site enter into the wall. A hemorrhage may result through this invasion of the wall or through an invasion of the capsularis by foetal cells or the capsularis may rupture. Abortion usually incomplete is the general rule but rupture might occur.

(3) In the centrifugal form the ovum sinks into the wall of the tube and an invasion of the wall and vessels by villi may take place even up to the serosa. The capsularis is formed by muscularis and mucosa. It may rupture at its summit. The invasion of vessels which enter the intervillous space may cause hemorrhage. The villi which extend up to the serosa may cause bleeding though the penetration is so gradual that these points may be covered with thrombi. Rupture may take place at the placental site through multiple perforation producing an erosion. Bandler further says that when no rup-

ture has occurred and the abdominal end of the tube is closed only the microscope may divulge the source of the intraperitoneal bleeding; that bleeding through perforations the size of a pin-head may cause collapse.

If death of the foetus occurs within two or three weeks, it appears only as a clot in the tube and no serious trouble may arise. If the placenta be located upon the free side of the tube, the danger of death from hemorrhage, in case of rupture, is much greater. Prompt surgical intervention is imperative. If the placenta be located upon the opposite side of the tube the placenta may retain its attachment and the child still continue to develop. At any rate the hemorrhage will not be so profuse. Kelly says that rupture usually occurs before the fourteenth week. If the rupture has been early and the embryo is dead, it may be absorbed. If it lives for eight or ten weeks it undergoes either mummification, calcification, or decomposition, or forms an adipocere. It may never cause any special discomfort. If the case develops to full term which is rare, pains similar to those of normal labor come on and blood and decidua may escape from the uterus. If the patient survive the rupture, the labor pains cease, the tumor decreases in size, the secretion of milk ceases, and if there occurs no infection of foetal mass it may not cause much inconvenience. Dr. E. E. Evans, of Lawrence, Kansas, reports (*American Medicine*, April 11, 1903) a case in which the gestation was normal except for a continuance of the menses. Labor began at full term in December, 1865, and continued for thirty-six hours, when there was a complete abeyance. About a week later vigorous foetal movements were noted, which suddenly disappeared and

never returned. Abdominal enlargement persisted for twelve or fifteen years and then began to diminish but never entirely disappeared. Autopsy, thirty-three years after the labor pains, disclosed a lithopedion, occupying the right tube which was not ruptured and lay in the right iliac fossa. Its weight was four pounds. Neugebauer operated at end of eighth month by abdominal section, removing a macerated foetus and a macerated placenta, which did not bleed. The sac was drained and the patient recovered.

A. Martin, of Berlin, reported 91 cases, 12 of which were not operated upon. Of those not subjected to operation 9 died. Two supplicated and discharged the foetal remnants via rectum or bladder; and 1 developed hematocele. Of the 77 cases operated upon by Dr. Martin or his assistant, chronic peritonitis was found in 67. In 48 the embryo was located in the ampulla, in the isthmus in 8, interstitial 1, intraligamentary 7, tubo-ovarian 6, tubo-abdominal 3, ovarian 1, and 3 were undetermined. Rupture was determined in 28 and abortion in 40. In 37 of these cases the corpus luteum was found on the corresponding side and in 4 cases on the opposite side.

In making vaginal section in several cases of pelvic abscess, I have found evidences of tubal pregnancy which had not been previously diagnosed. I will report only those cases coming under my observation during the last eighteen months.

Case 1. (Dec. 15, 1901). Age about thirty. Pulse imperceptible. Symptoms of air hunger marked. Extreme tenderness and tension of muscle over lower abdomen. Her menses had been regular. She was about two weeks past the time for her last period. Slight flowing had commenced. While waiting for the

ambulance, strychnine, morphine with atropine, and saline transfusion were given. I opened the abdomen as soon as she reached the hospital. It was filled with clotted blood. Both uterine appendages were firmly bound down by adhesions. Both were removed with much of the clotted blood. The rupture was in the isthmus. Recovery.

Case II. Mrs. W. Family history not important. Menses began at 14, and were regular and normal. She was married fifteen years ago. She has four children, the oldest 14 and the youngest 8. Labors normal. In August, 1901, she miscarried at five months, and again December, 1901, at three months. Following this her menses were regular until October, 1902, when she missed her regular time, the 15th. She thought she was pregnant. Menses appeared however upon the 27th, and continued till she entered the hospital, November 31. Agonizing pain above the left iliac crest began October 30, and was almost constant until she entered the hospital, a month later. Diagnosis, pelvic abscess. Operation, free vaginal incision, through which were removed pus, blood-clots and a tubal-mole. Microscopic examination showed clots firm and semi-organized. Arrangement of fibrin showed clots to have been of slow formation, by successive small hemorrhages. Probably the slow oozing from the abdominal ostium of the tube attending a tubal abortion. The definite evidences of pregnancy were sections of chorionic villi, showing the characteristic mesoblastic core and syncytial covering. Her recovery was rapid and her health is good at present.

Case III. Mrs. M. was sent to Harper Hospital March 8, 1902. She was pulseless and semi-conscious. Saline transfusion, atropine and strychnine were

given. Oxygen was administered instead of ether, and abdomen opened. A foetus of apparently six weeks escaped with the clots. The tube ruptured in the isthmus was removed. Microscopic examination showed villi present. The other side was not then examined as I thought she would die on the table. She left the hospital in fairly good condition on the fourteenth day. When she recovered I obtained the following history. Her parents are healthy. One sister died of consumption, another has asthma, and a third is weak and frail. She was 31 years old. Her menses began at 12 and were regular and painless. She was married at 18. She miscarried 7 months later. She has one child thirteen years old. Labor normal. No history of gonorrhoea. While carrying second child which was born five years ago she suffered greatly from nausea and pelvic pain. Was very sick with fever after its birth. On February 20, the proper date for her menstruation, an apparently normal flow began. March 5 flow still continued. Agonizing pain above the crest of the right ilium and radiating therefrom across abdomen. March 7, vomiting began. March 8, sent to Harper. Operation as above reported.

Case IV. Same patient. In February, 1903, her menses began on the 15th, nine days late. I saw her on the 17th, when she complained of severe stabbing pain above crest of left ilium. She said that this pain had been severe for four or five hours every second day from the seventh to the sixteenth, when it became continuous. She had not observed anything unusual passing in the flow from the uterus. Examination disclosed a large, smooth, movable mass to the left of the broad ligament. A sulcus could be felt between the mass and the uterine body. Uterus meas-

ured four inches. There was no dysuria. Her temperature and pulse were normal. I diagnosed unruptured tubal pregnancy with threatened tubal abortion, and ordered ambulance. I saw her at Harper Hospital the next morning, March 18, just one year and ten days after the operation upon the right side. She said while the ambulance was crossing the railroad track she had agonizing abdominal pain. I opened the abdomen at once, finding many fresh clots in the abdominal cavity. Pathological report: Left ovary and Fallopian tube, from the ampullar portion of which a foetus of about five weeks had been removed. No rupture had taken place, but abortion had been attended by considerable hemorrhage from the ostium tubae, which was freely open and moderately dilated. In the isthmus of the tube, nothing unusual was observed except that in the wall between the muscle bundles there were evidences of inflammation in the form of small cell deposits. The lumen of the tube was free but underwent some very sharp bending, leading almost to sacculation in places. Upon the wall of the ampulla, at the site of the placenta, was observed some infiltration by trophoblast but the ovum had in no place so far eaten its way through the wall as to induce rupture, and the wall by stretching had avoided the same accident. The cause of symptoms was likely abortion with hemorrhage from separation of placental attachment. She again left the hospital in good condition on the fourteenth day.

Case V. Mrs. H., age 37. Menses began at twelve. Obstructive dysmenorrhoea. Married at 25. Miscarried at five and one half months in the winter of 1901. She flowed almost continuously until I curetted the uterus about three months

later. I found enlargement of the left tube at that time and advised its removal, which was not permitted. Her general health improved greatly after the curettage. Friday, February 6, 1903, she told me she feared a miscarriage. She had missed one menstrual period and the second was now due. The other symptoms of pregnancy were present. The preceding night paroxysms of pain in left ovarian region came on every hour or two from 11 p. m. to 4 a. m. Bimanual examination caused great distress. There was a large mass to the left of the uterus behind the broad ligament and a smaller mass to the right. Her pulse and temperature were normal. I diagnosed tubal pregnancy and sent her to Harper Hospital. She had no pain after entering the hospital. Her flowing became free and was apparently normal. The nurse could determine no shreds. The uterine cavity measured four and one-half inches. On Sunday she felt so well that I began to doubt my diagnosis. Her husband was a physician, so I sanctioned her being taken home, provided a trained nurse were kept with her. The mass to the left of the uterus had diminished in size. I did not see her during the week but the next Sunday I was called to find her in terrible pain. She was sent at once to Harper. Bleeding from the left tube had filled the lower abdomen. The opposite tube was distended to the size of a small sausage with serous fluid. Her recovery was rapid. Pathological report: Specimen 1., left Fallopian tube with ovary. The tube at the isthmus was enlarged to 3 c. m. in diameter. The ovary measured 2.5x2.5x3 c. m. and contained corpus luteum verum. The tube was opened and found to contain a mole which, by gradual enlargement, had stretched the tube almost

to the point of rupture. The infiltration of the muscular structure was not marked and the abdominal ostium not being entirely closed rupture had not occurred. The mole on section showed numerous villi with syncytium and trophoblast scattered abundantly over the placental site. The ovum could not be found indicating that abortion must have occurred early, the continued hemorrhage being due to the placental structures remaining. Contractions of the tube wall could in this case more or less completely block the abdominal ostium by plugging it with the mole. The sac in which the large mole had formed was at a sharp bend in the tube which may originally have checked the passing ovum. In considering the etiology further, the condition of specimen II., the uterine appendage of the other side is of interest. The ovary was enlarged and cystic. The fimbriated extremity of the tube was bent around the ovary and grasped it so tightly that a hydrosalpinx was allowed to develop in the extreme end of the tube almost to the size of the tube, with mole already described upon the opposite side. The lumen of the tube was devious in its course and the plicae were much thickened and congested as well as showing marked increase of connective tissue.

When the rupture has occurred between the folds of the broad ligament there may not be urgent necessity for immediate operation. The diagnosis of this condition might be impossible however without opening the abdomen. In cases where there has been a previous rupture and the placenta has become attached to the intestines and other peritoneal surfaces, the placenta may have to be left undisturbed after tying the cord and the abdomen

closed until the patient is stronger, unless unfavorable symptoms arise.

Case VI. Mrs. S., age 26. Menses began at 11, were regular and normal. Was operated upon for appendicitis about ten years ago, following which she was in bed for three months. She was never pregnant. Menses were regular until February, when the flow began two weeks late. She suffered from nausea in the mornings. There was pain and soreness in left ovarian region and severe backache. About the 20th of March, she had an attack of sharp pain in the region radiating over the abdomen, lasting for about five minutes and recurring four or five times during the day. A week later she had another attack lasting two days. About a week later a third attack kept her in bed for three days. The next attack confined her to bed for a week, after which there was continuous pain and soreness until she entered Harper Hospital, May 9th last. I found large fluctuating tumor filling pelvis and extending nearly to the umbilicus. Her temperature was 103, and pulse 128. I made free opening in posterior cul-de-sac. At first about a pint of pus flowed out; I then removed a large quantity of placenta, semi-organized clots and fragments of a foetus of two and one-half months. The foetal structures were in good preservation. It must have been living a short time before operation. In tearing away the placenta I made an opening in the upper wall of the sac. The hemorrhage was profuse. It was controlled by packing with silk tent and iodoform gauze. Her temperature went to normal in a few days. Symptoms continued favorable until about the 25th. She had a severe chill on the 29th. The next day I opened the abdomen. A large mass of omentum was adherent to right uterine

appendage and to the fundus uteri. This condition had apparently existed for a long time and was probably a result of the appendicial suppuration of ten years ago. Foci of pus were found in the lower part of this mass. The left side of the uterus formed the border of the gestation sac. I was forced to do hysterectomy to make the pelvis clean. The floor of the left tube had been ruptured, owing to the placental invasion, and the new sac had formed in the broad-ligament. That this secondary sac must have filled slowly, owing to perforation of the villi, was evidenced by absence of symptoms of collapse in the case. The sac was about .10 c. m. in length and 2.5 c. m. in diameter. It had been ruptured in two places. The sac was lined by a layer of necrotic tissue. The atrophied ovary was firmly adherent to posterior surface of uterus and was discovered only in microscopic section. Thus the sequence of events was prolapse of ovary, peritonitis causing its adhesion, prolapse, and bending of tube with adhesions. Examination of the other appendage showed the infiltrated extremity of the tube closely adherent to ovary, omentum and adjacent structures. Microscopic examination of tube showed increase of connective tissue in the plicae. Summary:

1. Collapse not an essential symptom.
2. Extreme tenderness present in many cases.
3. Pain sometimes referred to crest of ilium.
4. Classic symptoms of pregnancy present.
5. Slightly delayed menstruation followed by prolonged and irregular flowing generally observed.
6. Infected hematoma in the broad ligament may necessitate hysterectomy.

7. Symptoms of hemorrhage indication for immediate operation. Profound collapse not a contra-indication.

DISCUSSION.

J. A. KING, Manistee: There is one important matter in connection with ectopic pregnancy, and that is its frequency. This paper, and all papers that are being read now, illustrate that point, that ectopic pregnancy is common. Our authorities are specialists, and they don't have the best experience; it is the physician, the general practitioner who knows more about it than they do. Dr. Kelly in his text book says he has operated for this condition twenty-three times in a thousand coeliotomies. That would indicate that they were uncommon; as a matter of fact, they are not. The general practitioner is the man who should recognize that fact and act upon it. Another thing is that they are not all followed by a severe hemorrhage, that is, I am talking about my experience. The vessels of that part are not large, and they retract the same as any where else and stop bleeding. It is not an unusual thing to have an ectopic pregnancy. It is not unusual to have a rupture and have symptoms of a hemorrhage. Frequently it is difficult to differentiate from a threatened miscarriage. There will be severe pain, spasmodic in character, later a bad smelling, bloody vaginal discharge; there will be a history of delayed menses; later you may get this suppurative condition the doctor speaks of. Of course I operate but seldom. In the last year I have operated on four cases of ectopic pregnancy, and assisted at another, in a town of 15,000 inhabitants. Two of these were cases where there was a great deal of hemorrhage, two were cases where there was not, and the cases passed along for a week or ten days until they became suppurative and we operated for the blood poison symptoms. This idea that ectopic pregnancy is a thing the general practitioners are not likely to see frequently, is wrong. We are supposed to be astute enough to diagnose all rare cases or conditions known to medical science on sight anyway, but as a matter of fact, anyone will see something he is looking for a great deal quicker than he will recognize that which he never expects to see, because under the law of percentages there are not enough cases to go around.

EARL BIGHAM, Grand Rapids: The paper is very full and complete; it covers a very interesting subject. As the doctor, who preceded me, has just said, these cases are more frequent than we even know. I believe that the majority of cases of hematosalpinx we find in the Douglas Cul-de-

sac are primarily tubal pregnancies. It has been my privilege to assist during the last two years in ten cases of ectopic pregnancy ranging from two months to ten or fourteen weeks. In the majority of the cases, those that have had the primary rupture, the pregnancy has gone on and become either abdominal or intraligamentous or gone on to full term, or become suppurative through the death of the foetus. I saw one very bad case. During the first symptoms the case had been in the hands of a physician who diagnosed it as normal pregnancy. The doctor made a mistake—which is easy to make. She had a primary rupture and it went on to develop secondarily until the time when we removed it, when it was fully as large as an eight months child within the sac in the abdominal cavity. The first severe symptom was a hemorrhage, having a very disagreeable, foul odor, showing that there must have been some suppurative condition in the abdominal cavity with perforation in the bowel allowing the hemorrhage. I saw a case last winter, being that of a lady who went to town to do her shopping, and while in town she was taken with very severe pains. There is a peculiarity about the pains caused by the rupture in ectopic gestation—they are cramp-like in character. It seems to me that this lady expressed it in a very clear and explicit way; she said it seemed as though her intestines were twisting into a knot. The pains are cramp-like in character; they are not like the pains you get in normal labor. If the condition is at all severe, that is, if development has gone to any extent through the process of gestation, there is usually a good deal of hemorrhage. In this case the lady was taken to a neighbor's. The pain gradually became better. The lady gave her some whiskey, thinking it was intestinal colic. She lay down on the couch for a while and afterward she got over the pain, took a street car and went home. A physician was called in and made a diagnosis of uterine colic and gave her an injection of morphine and treated her for five weeks, using a tampon of boro-glycerine, placing one in the vagina night and morning; she got no better. I was called in to see the case. I examined her and found, as Dr. Metcalf said, upon examination, a large tumefaction crowding into the cul-de-sac and broad ligament, found it excessively tender—exquisitely so. On examination of the abdominal wall, we could find a flatness reaching up above the umbilicus. I made a diagnosis of hemorrhage as the only probable cause; there was no indication of an over-distended bladder. We took her to the hospital, made a laparotomy and found the abdomen full of blood. If there are cases in

which there is no hemorrhage, rupture must have occurred early in the history of the case. I think these cases are more frequently met with than we have reason to believe. The general practitioner should understand these points because we cannot always take the cases to the specialists; specialists are not always handy, and many patients require immediate attention.

C. H. Rober, Calumet: I will state that I am not a gynecologist, but I was very much interested in the subject which was presented in the paper. I don't know whether you gentlemen are all gynecologists or not. I am only a general practitioner up in the country, and I was very glad to hear this paper for the benefit which it does us as general practitioners. I believe, as all these speakers have said, that the subject of ectopic pregnancy is very common. We have often thought about the troublesome conditions we might meet under those circumstances, but as the years go by we do not recognize them until such time as they are forced upon us, and then in looking back we realize that some of the cases we have had before; those that we have diagnosed as peritonitis or some obscure condition must have been a case of ectopic pregnancy with hemorrhage, in which it did not result fatally, for I think that very often instead of the fatal cases or the cases that the surgeon meets, we have cases where a slight hemorrhage takes place, where the conditions are arrested and absorption takes place and the patient recovers. We are often called to see a case in which these sudden flying pains, as previously spoken of, take place, and I think if we observe the case closely we will find that there is some distinction between the strict etiology in a case of ectopic pregnancy and a case of peritonitis, and that is in the pulse. "In most cases the pulse will give us some idea of what may be going on inside. In these cases it is rapid, and I think there is a tendency to fainting also, a shortness of breath, which may be transient or for a short time only and then passes away. Then perhaps the patient will have a rest and recover from her indisposition for a few days when another hemorrhage takes place, which will be more severe than the first. Then, of course, we recognize that a hemorrhage has taken place and it is quite necessary to operate or interfere in some other way. I make these few remarks simply to see if we cannot diagnose our cases earlier. Of course, in some instances, in advanced pregnancy, there is an increased temperature, but as soon as a hemorrhage occurs it makes the case plain. But, as I say, there are frequently cases which do not terminate in that way and this makes the diag-

nosis necessary, and by referring the cases to a surgeon he may in that way relieve the patient of imminent danger from subsequent hemorrhages.

F. B. TIBBALS, Detroit: Dr. Ochsner, of Chicago, has probably the lowest mortality of any man in this country in the treatment of appendicitis and he reaches that low mortality by converting the bad cases into interval cases, at which time they may be more safely operated upon. We can lower the mortality in cases of ectopic gestation if we can apply the same theory of operating upon the case at the proper time, which is always before rupture. The question then comes again: Can we diagnose the condition before rupture has taken place? The two cases which Dr. Metcalf described in his paper would not occur if we could diagnose the condition before the rupture takes place. We can do it provided we see the case and are watchful for what we always should be watchful for. I think there are two or three cardinal points by which, provided we are consulted by the patient, we can always diagnose ectopic gestation before rupture takes place. The patient first has an irregular flow. The first period following the usual menstruation may be regular or may be partially suppressed, but there is an irregularity about it, which usually attracts the attention of the patient, and if she consults her physician and states the case to him she says, "I think I am pregnant, but it is not as it usually is." Then besides that, provided the tube does not rupture very early, there will be an occasional show of blood; and also usually the passage of little shreds of decidua. Those two points, either one or both, should lead the physician to make a careful examination for the enlarged tube. In that way we ought, with the assistance of the patient, to be able to diagnose these cases before they come to the point of rupture, because rupture is a calamity; we cannot tell what will happen. There are some cases in which rupture takes place into the folds of the broad ligament, and the bleeding stops of itself, avoiding a fatality by reason of the hemorrhage. The case that does not die from hemorrhage is very apt to die later from sepsis; if not, the patient carries a hematocoele which later leads her to the surgeon when the chance of complete recovery is not nearly so good as though the condition could have been diagnosed before rupture and the case operated upon at that time.

W. B. WALLACE, Manton: I wish to report a case which occurred in my practice a year ago. It was of vital importance to me because it was my wife's sister. She had passed her menstrual period about two weeks and was riding in a carriage when suddenly she had this griping pain that one of the doctors has spoken of and was taken to my

house, where she lay down for a short time. There was a spot of blood on her cloth about the size of a dollar. This pain passed over in the course of fifteen or twenty minutes and she went home. I did not see her again until about two weeks after that, on Sunday morning, when she commenced to complain of this griping pain throughout the abdomen. It was not located in any one position, but was general, and I confess I did not make a diagnosis. It may be easy but I did not do it. I called it a colic because she had been eating corn and some of the corn had passed undigested. This was on Sunday but no tumor could be made out or dullness in any particular location until Friday. Then I met a dullness just above Poupart's Ligament. She had not been able to have a passage of the bowels. I called Dr. Evans, of Traverse City, and he diagnosed ectopic pregnancy and made an incision. The moment the abdomen was opened a clot of blood turned out, but no free blood. He did nothing further than to open the abdomen and flush it out, it was closed with drainage and we had a complete recovery so far as the first operation was concerned, not a drop of pus, no increase in temperature. But three weeks to a day from the time of the first operation, she was seized with an intestinal obstruction. In 48 hours I had the doctor there again and he made an operation and found that there had been a fibrous band about the size of a fiddle string that had caused the obstruction, and he relieved that and then turned his attention to the other tube and ovary; the first operation was for the right tube and the second operation for the intestinal obstruction. He found that the left tube was impregnated and that it had been stretched until it was nearly ruptured and would have ruptured in a short time. The left ovary was enlarged and very much inflamed. At that operation he made a complete removal of both tubes and ovary with complete recovery of the case. This happened in the case of a general practitioner and I do not want to see another. I might say that an abdominal hernia has occurred in the site of first operation.

WM. F. METCALF: I did not mean to convey the idea that I thought the diagnosis easy. In many cases it is, however. Contractions, cramps and agonizing pain, do not necessarily mean rupture, but more likely tubal abortion, especially when occurring in the second week.

I forgot in the report to mention the result in the last case. She is recovering, but has been very sick. A great aid in the detection of these cases is the systematic taking of histories. I carry a little printed form in my pocket for this purpose.

DIFFERENTIAL DIAGNOSIS OF TYPHOID FEVER.*

W. A. FERGUSON,
Sturgis.

Typhoid fever, like every other disease, has a history, and it is in the study of this history that we gain some of our best points in diagnosing the disease. In the history of this disease, there are many characters that are prominent, that guide us in our discrimination from other diseases. It is the obscure symptoms that we must study, if we wish to gain skill in diagnosing this disease. In the short time I have on this occasion I can only select the most prominent characters of this disease, and by comparison with symptoms of other diseases, draw conclusions as to what is the matter with the patient. First, comes the history of the case: In getting this we must be very careful, and get details in the methods of the patients living, both in habits and kind of food and water that has been used. If this history shows that both food and water has been poor, and especially the drinking water, we have found one point of evidence that gives us grave suspicions of the trouble. In the onset of typhoid is where the difficulty lies in making a positive diagnosis, and we must be on our guard in making any positive declarations as to what is the special disease; but as the disease advances, the more positive symptoms and signs become more marked, and we have a landmark here and there that gives us a surety to form our opinion from. Among the early symptoms of this disease, there

is one that is prominent, and that is the inability of the patient to tell when the trouble commenced, or in other words the major part of the cases commence very lightly, with languor, frontal headache and loss of appetite. But the speed of the symptoms with other fevers is far ahead of the same symptoms in typhoid, and in this difference of speed, we get a point of difference to diagnose our case. Another disease that is sometimes mistaken or leads us astray is military tuberculosis, but in this disease the temperature is more irregular, the difficult breathing more marked and the rash absent; also, generally speaking, the abdominal symptoms are more marked in typhoid than in military tuberculosis. Another disease that might be mistaken for typhoid is enteritis, but in this disease the absence of high fever and the sudden onset of the disease will serve to discriminate it from typhoid. Another disease that may lead us astray is meningitis, but the sudden onset of this disease and early cerebral symptoms serve to discriminate it from typhoid. Some of the physical features are prominent in this disease: The pupils are dilated, the tongue is red on edges, often a dark streak through the center, and has a tremulous movement when extended; also many times sordes gather on the teeth. The abdomen is distended, but does not have the severe pain that attends peritoneal or enteritis distention. Also many cases of typhoid have a marked tympanitis in the right iliac region, but do not have the severe pain that we see in appendicitis, or the passing of gall stones. These characters of pain that we have in most of the inflammatory processes of the organs of the abdominal and thoracic cavities serve to aid us in diagnosing typhoid fever. But the doctor

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who figures that he is a dead shot in diagnosing typhoid fever in all its stages, will wake up on some obscure case, and blush at his own weakness. In reading the many reports of the late Philippine war we see this truth demonstrated to the letter and line. The double pulse so often found in early typhoid is another suggestive symptom of what may be ailing our patient. In diagnosing typhoid fever we must study every feature of our case from the first and watch for new developments and try to meet what comes. If we fail to have this interest, in the same measure will we fail in our treatment. The rash is perhaps the most valuable single sign. Its location and character will aid in discriminating it from rashes of other fevers. The greenish yellow stools also aid us in diagnosing, and the persistency of this character of stools aid us in discriminating from the stools of other fevers. Another diagnostic symptom is the slowness of pulse in comparison to height of fever. Nose bleed is another sign of importance in typhoid, if it is persistent. During second week if there remain doubts in our diagnosis we should send a few drops of blood to some good laboratory and have the Widal test for typhoid. The blood should be taken from the veins of the arm, and dried before sending. Leucocytosis has no value only where one disease has an excess count, and another has not; for instance it is of value between typhoid and septicemia. It is not safe to diagnose a case of typhoid with a high count of leucocytes, and when it is so made, the diagnosis is generally incorrect, or there is some complication. In typhoid the pain extends over the whole iliac fossa. In appendicitis the pain is the most intense at McBurney's point; also in appendicitis the muscular ridge is generally observed,

which is seldom if ever found in typhoid. The blood and urine should be frequently examined and the results closely watched. By doing this we are better prepared for coming emergencies and danger that we have foreseen by this close watching and study. When typhoid *does* occur with children the symptoms and signs are not typical with the adult. The onset is more marked. The fever more irregular, and the general symptoms more indefinite and milder. The enlargement of the spleen more readily defined, and the rash more frequent. The tongue does not become so dry, and seldom cracks in the middle. There is, however, more vomiting with children in this disease than adults. Hemorrhage, perforation and nephritis are not as common as with adults. Another feature in typhoid with children is the resolution of the glandular system, before reaching the stage of ulceration, or perforation. The marked points with the child in typhoid is the complaint of being tired all the time, frontal head-ache, loss of appetite, soreness of muscles; do not sleep good nights, and in a few days begin to have chilly feelings and light fever. As the disease progresses the lips become scaly and cracked. The tongue is generally red at tip and edges, with a yellowish white coating covering balance. The rise of temperature is not regular, and differs some in this respect with the adult. The urine is scanty through the course of the disease. But between the tenth and twentieth days the child generally commences to convalesce. Though very weak and emaciated out of proportion to the symptoms of the disease, I believe it is more difficult to diagnose typhoid in children than adults, from the fact that their bodies and intellectual powers are in a stage of development. The double pulse

is less frequent with children than with the adult in this disease, also relapses are less frequent. In early stage of convalescence, the pulse and temperature may be subnormal, due to weakness of the general system, hemorrhage and perforation less common with the child than the adult, but we should always be on the watch for these things, as we follow our cases through the different stages of the disease. Cough is more frequent with children than with adult in this disease, and I sometimes think that bronchial catarrh is one of the phenomena of the disease instead of a complication in typhoid fever. Nose bleed is less common in children than adults and is not as severe. The nervous system is more affected in adults than with children. Loss of voice more common with children than adults, but the rose spots about the same in both cases. There is one disease that we must be on our guard to distinguish from typhoid, and that is acute tuberculosis. In typhoid the abdomen is generally distended, in tuberculosis the abdomen is flat and flabby; in typhoid there is generally diarrhoea, in tuberculosis this is not common. The pain in head in typhoid is dull, in tubercular meningitis the pain is sharp and intense. When hemorrhage and perforation occur there is a sudden fall of temperature and signs of collapse. Sometimes we may be able to foresee this by percussion over the umbilical region, when we will get marked dullness and tenderness at this point, leading us to suspect what is coming. If this occurs it is generally at the end of the second or beginning of the third week of the disease. If we get the negative Widal test and the absence of typhoid bacilli in the blood, we have found good evidence in obscure cases of typhoid fever.

Morbid findings: First, is typhoid due to local poison of the glands of the small intestines, or is the inflammation of these glands a manifestation of a general disease? It is now conceded that this disease is due to local poison of the glands from a germ known as *Bacillus Typhosus*, that is found in water, milk, and other forms of matter where decomposition may occur. It may be carried to the body through drinking water, milk; vegetables that have been washed in water polluted with this germ, dust, flies, emanations from typhoid stools, etc. Peyer's glands of the small intestines are the most marked with the poison of this bacillus; the swelling of these glands being most marked at the end of first week or beginning of the second. Circulation of the blood is poor within the gland at this stage of inflammation on account of the exudate thrown off; the ulceration commences at edge of slough and generally goes deep enough to reach the submucous coat of the bowel, and may go through the muscular coat, producing perforation into the peritoneal cavity. When resolution follows the sloughing, there is a slight depression in the gland, which is soon covered with new mucus membrane of the bowel. The spleen is generally enlarged, but is of no great value in diagnosis as this condition of the spleen is found in many other diseases of the blood and body. During the sloughing period of Peyer's glands, an artery may be opened and dangerous hemorrhage occur. I sometimes think that hemorrhage is a possible forerunner of perforation. When hemorrhage occurs the stools are of a dark red or tarry color, and if this occurs we must be on our guard for grave results in this disease. Peritonitis generally follows perforation and is usually fatal. There is a catarrhal condi-

tion of the whole alimentary tract, and this accounts in a measure for the diarrhoea that we have in this disease. The great increase in the formation of tissue elements of Peyer's glands accounts in a measure for the sloughing, and ulcerative process that we see going on. The solitary glands in the submucous coat are to some extent involved. The liver in the onset is usually in a dormant state, and the secretion of bile is deficient and by virtue of this fact decomposition occurs in the contents of the bowels, and we see the cause of distention by gas. Nervous exhaustion comes from destroyed nutrition, and if we observe closely we will see an unbroken chain of causes producing an unbroken chain of effects in this disease. The portal circulation through the liver is a reciprocating process between the general system and the alimentary tract, and the poison of typhoid bacilli materially effects the functions of this organ. The reason that Peyer's glands are more affected than the other glands of the intestines in this disease is their greater vascularity which makes them more accessible to the colonies of bacilli that do their destructive work. The morbid anatomy is not so marked in children in this disease, and we do not have the opportunity to investigate, as it seldom occurs with children under two years of age; but we must constantly study every character of the disease, in child or adult, if we wish to be fair diagnosticians.

Bacilli tests: The serum test of Widal consists in taking blood of the typhoid patient and mixing it with broth cultures. If the serum causes an immobility or clumping of the rod-like bacilli of typhoid fever, the test is positive. The reaction will generally occur after first week of disease. Authors do not con-

sider this test infallible in all cases, but in a major number of cases it is a great aid in diagnosing our case. Another test of value is to draw a little blood from our patient's arm into a small test tube, and allow it to stand twenty-four hours. If the clot shows marked retractions from the side of tube with formations of much serum, we may infer that typhoid bacilli are not present, and that this finding is of tuberculosis. On the other hand if little or no serum is found and the retraction from side of tube not marked, our inference will be that typhoid is present. Leucocyte count of blood is another test used by some as the number of leucocytes are low in this disease, while in many other inflammatory diseases the count is high. Several other tests are given but time does not permit me to continue on this division of the subject.

Conclusion: If the history is of a positive character and the symptoms largely of typhoid features; if the morbid findings are positive and marked, and the different tests for bacilli are all positive, we may be reasonably safe in diagnosing our case typhoid fever.

THE ABUSE OF INFLATION AND MASSAGE OF THE MIDDLE EAR.*

EMIL AMBERG,
Detroit.

It is characteristic for our time that any method which has aided in combating a human ailment is also taken up and employed by those who are either unable

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to understand the proper indications for the method in question or else who take advantage of the ignorance and credulity of the masses for mercenary purposes by employing a certain method in cases entirely unsuitable for the same.

The author desires to discuss a subject which has forced itself to his attention, as it has done also to that of others, because he thinks that it is time to call a halt to the indiscriminate treatment of non-suppurative middle ear affections without proper indication, or without a thorough knowledge, and consequently often with disastrous results. The subject which I am referring to is inflation and massage of the middle ear.

When a patient comes to one's office for treatment, complaining of disturbances on the part of the ear, it is our first duty to see whether the patient suffers from a general affection or not.

The wife of a physician consulted me on account of noises in the ear. Patient was weak and anaemic. In order to establish the permeability of the Eustachian tube a catheter was inserted. The patient fainted. As the hearing was pretty good, local treatment of the ear was advised against, and a tonic soon restored the patient to normal condition. That this patient, or a patient suffering from similar conditions, might, under circumstances, have been subjected to a regular course of massage and inflation, the author doubts little.

It is amply exemplified that the treatment of the middle ear can sometimes be confined almost entirely to the treatment of the nose and the naso-pharynx and the throat. The results of the establishment of a free passage in the nose and throat, or the removal of growths in the naso-pharynx and the establishment of sound

conditions in the throat are amply known.

I would not annoy you by again calling your attention to the adenoid growths were it not for the lack of understanding which we meet sometimes even within the ranks of our own profession. How can we expect the aid of the laity if some of us still foster an entirely wrong conception about adenoids, and enlarged tonsils and nasal obstruction? They are rather negligent toward their patients who let the opportunity pass to do a great deal for them by insisting on a timely and careful attention to pathologic conditions of far-reaching consequences. Experiences in regard to the lack of understanding on the part of the parents suggested to me the idea to draw up the following letter, which I intend to send—somewhat modified as to the individual case—to the parents, or those in charge of the little patients who come under my care suffering from adenoids or enlarged tonsils:

"Your child is suffering from a growth in the naso-pharynx (adenoid vegetations) and from enlarged tonsils. The health of your child is menaced hereby, because the presence of these abnormal conditions is not only a danger to the ear of your child but furnishes also a source for general disturbances of a serious nature. As the treatment of these conditions is practically without any danger, I ask you to call at my office for further information."

In regard to the tonsils, Bosworth's textbook is excellent authority. We meet, however, with conditions established in the ear, which are not amenable to treatment in the general way, and which cannot be influenced by the treatment of the nose and throat to a very great extent, although in many cases the concomitant treatment of the nose and throat is of importance if only in an auxiliary way.

In treating non-suppurative and non-inflammatory cases of the middle ear, we can work on the same through the Eustachian tube or through the drum membrane and the ossicles.

The following case illustrates several points of interest:

Miss M. H., 27 years of age. When ten years old hit by a snow-ball in right ear. Did not notice any particular lasting disturbance. Spring of 1893 noticed deafness in right ear. This patient consulted a number of physicians in regard to her ears.

Dr. No. 1, spring of 1893 to fall of 1895. Ear inflation and self massage. Hearing distance measured by watch, 55 inches in left ear, 7 inches in right (the doctor said, so patient reports, that the 55 inches represented ten inches more than would have been expected from the normal ear.)

Dr. No. 2 had patient under treatment in winter and spring of 1895 and 1896. Operation on right side of nose. Hearing not particularly treated. No improvement.

Dr. No. 3, June, 1896, to March, 1899. Inflation and treatment daily for two months, then every other day for a couple of months; besides, massage of the ear was used. Strong ether-vapor inflations. In spring of 1897 went to Arkansas and had typhoid fever. Later, massage used. Patient did not lose much hearing during this period.

Dr. No. 4, June, 1899, to January, 1900, and later. Used vapor inflations, as patient says. Grew steadily worse.

Dr. No. 5, February, 1900, to September 30th, and later. Hearing watch, 16 inches in left, and four inches in right ear. Was treated by rapid massage. Improved hearing 30 to 36 inches

in left ear and 7 inches in right. Rose rapidly in the beginning; three treatments a week until later, one treatment per week. Went down in four days in September. Patient says she took digitalis at that time and that she blamed it for partial loss of hearing at that time. Tried same treatment for several weeks. Watch, fourteen inches in left and four inches in right. Throat treated by Dr. No. 4 during this period.

Returned to Dr. No. 4 from December, 1900, to September, 1901. Throat treated; light ear treatment with massage and inflation.

Then patient saw me, Dr. No. 6, in October, 1901. I restricted my treatment to occasional application of Lucae's Pressure Probe, improving the hearing slightly and keeping it at a certain stage.

Examination with the Siegle speculum showed that the drum membrane was very easily movable, not only in the posterior upper quadrant but also in the anterior lower quadrant. This circumstance induced me not only to desist from any treatment by inflation and massage, inasmuch as such would affect the drum membrane. I resorted to Lucae's Pressure Probe, carefully controlling the status by hearing by tests, and I could notice, as my records show, a slight improvement. Whether this improvement is due to the local treatment or to the improvement of the general condition of the patient I should not like to determine with certainty. I desire to state that a mere examination of the drum membrane as to its mobility excluded for me absolutely any treatment which would engage the drum membrane to any considerable extent. Being aware of the fact that I was differing somewhat from previous treatments and bearing in mind one of our duties as

practitioners, "nihil nocere," I gladly followed the suggestion of my patient, who desired a consultation, and recommended her to one of our foremost aurists in the East, who wrote to me, among other things, "Under favorable conditions, and with but a moderate degree of local treatment I believe that the hearing can be somewhat improved. . . . In the meantime however the patient was advised to go temporarily to another climate. I have advised her to go to you for the use of the pressure probe."

I was very glad that the Eastern colleague agreed with me as to the advisability of only very selected and occasional local treatment. I do not doubt if I had continued the inflations that the hearing would have diminished considerably. I am not yet convinced that the treatment by massage, in some cases, is more of an indirect nature in stimulating the circulation in the tissues of the middle ear, and this massage carries with it a certain danger to the hearing, by producing a flabby membrane and perhaps by loosening the joints between the ossicles. I think that we should resort, if we can possibly do so, to stimulating the circulation in the tissues of the middle ear by other means.

Dr. Watson, of Edinburgh, in an article entitled: "The Treatment of Deafness of Middle Ear Origin," says: "The principles of treatment of this affection are: First, the promotion and maintenance of vigorous circulation in the middle ear, with a view of (a) increasing the resisting powers of the tissues, and (b) promoting the absorption of morbid products where possible. I believe that not enough is attempted in the way of judicious stimulation of the middle ear structures. The present practice appears to me to be too

much restricted to momentary stimulation effected by the use of Politzer's bag or the catheter, etc."

In middle ear affections of a non-suppurative character we are sometimes, undoubtedly, sailing between the Scylla and Charybdis, and only very judicious individualizing and careful control of our treatment, and above all the use of the Siegle speculum in order to establish the mobility of the drum membrane are essential factors in treating these cases. We know that we can, by the aid of the tuning fork test, make a differential diagnosis between affections of the middle ear and the sound perceptive organ proper, and it is not necessary for me to speak at length upon the importance of such an investigation. A certain percentage of affections of the ear are termed sclerosis of the middle ear. The attention of the profession has been called to this disease by a number of authors, and lately mostly by Siebenmann.

The worst ears that come to us for treatment are those in which we can make out no pathologic changes. As it has been expressed by another aurist, those ears are the worst because the patient does not hear anything and the physician cannot see anything; and yet, some benefit may be derived by recognizing this affection and by not injuring the ear any more by local treatment.

Lucae treats at some length the subject in an article entitled: "Vibratory Massage in the Treatment of Progressive Deafness, with especial consideration of my Elastic Pressure Probe" (The Laryngoscope, September, 1900), and quotes Ostmann's Verification of his own claims, saying: "The application of the Lucae pressure sound is especially indicated in

those cases of ankylosis of the ossicles where the membrana tympani is relaxed; pneumomassage should be used where the membrana tympani is tense and difficultly movable, and especially when it is determined that the application of the pressure sound produces a tension of the ossicular tendons."

Like in our case mentioned before, the most important part of such an ankylosis is the rigidity at the oval window, which subject has invited considerable attention on the part of Panse.

Dr. Musehold (see *Deutsche Medizinische Wochenschrift*, January 15, 1903, No. 3,) speaks of the massage by air waves, which he says does not work purely mechanically but "physically." He probably means physiologically, or else I am mistaken, unless he will point out the difference in indiscriminate mechanical and discriminate mechanical treatment and calls the latter "physical." His results are no doubt encouraging. He mostly tries c^1g^1 and also deeper and higher tones. His stroboskop is different, as we see, from the pneumomassage. He says that the results by his sirene are lasting for days, weeks, even months, whereas in the results by Lucae's treatment this is not the case to such an extent.

Lucae (*Archiv fuer Ohrenheilkunde* 53d Vol. October, 1901) describing his Otostroboskop speaks, however, more of the value of his instrument in regard to the physiologically diagnostic value in connection with the pneumomotor and Siegle's speculum.

Dr. Clarence John Blake, in an article: "Tension Anomalies in the Sound-Transmitting Apparatus of the Middle Ear (*Archives of Otology* Vol. XXXI, No. 2)" treats the subject matter in a very

lucid way. Dr. Blake gives the following advice:

" for in all that pertains to this question of tension anomalies and their treatment, it should be borne in mind that a little help is sometimes of great importance to the individual who receives the improvement, while but a small percentage of the normal hearing is a large percentage of the hearing which the patient has at command. In the light of the brilliant surgical successes and major achievements in otology, the minor possibilities of help must not be forgotten, for to aid toward wholesome and useful living is as much one of the duties of the medical profession as is the saving of life itself."

Our attention may be called to the abuse of drugs, as the abuse of drugs may give rise to symptoms which not only may mislead us in our diagnosis but may injure the ear more or less permanently. For instance, the use of quinine may produce deafness and noises in the ear.

In conclusion, I summarize, as suggestions for treatment of non-inflammatory processes of the middle ear:

1. The use of the Siegle pneumatic ear speculum, especially for diagnostic purposes, is an absolute necessity.
2. Our treatments should continuously be controlled by hearing tests.
3. Local treatment of an injurious nature should absolutely be desisted from.

DISCUSSION.

EUGENE SMITH, DETROIT: There is no question about the facts as Dr. Amberg relates them in his paper, and about the inadvisability of using too freely the massage in the treatment of the middle ear troubles and chronic catarrhal troubles. It is true that there is a too frequent use of the catheter. I might also speak of the dangers of middle ear infection from the too frequent use of the air bag, without first having

corrected the condition of the naso-pharynx before it is used. The possibility of carrying germs to the middle ear is one that should be taken into consideration.

R. W. GILLMAN, Detroit: I cannot add much to what has been said. In these cases we all are liable to fall into ruts, in the way of routine treatment, and, as the doctor has pointed out, we always should avoid this. What he has said about our tests of the hearing is important. In attending to these maladies we should guard against becoming mere practitioners, and see that we do not keep on treating the patient while not as carefully watching the progress of the case as we should. As regards massage, not only do the family doctors use the *Delstanche Masseur*, but I have come across several instances where the patients themselves have shown me the instruments which even specialists. I am sorry to say, advised them to use. I have met with not a few cases of chronic catarrhal deafness which, in my opinion, had been over treated.

O. A. GRIFFIN, Ann Arbor: As the doctor has presented this subject in a very thorough manner, I do not think I can add anything to what has already been said, but by way of emphasis, however, I wish to say that I too believe that aural massage and tympanic inflation is often inappropriately employed. I have seen several instances where the deafness was traceable to large atrophic areas in the drum membrane or an undue flaccidity of Shrapnell's membrane, with patency of the Eustachian tube, and yet, Politzeration had been prescribed for the relief of their deafness. The custom of advising patients to employ the Valsalvian method of inflation for therapeutic purposes is also mentioned only to be condemned, as an irreparable relaxation of the membrana tympani and intra-tympanic ligaments is often thereby produced with an aggravation of the power of hearing. Several of these cases have recently come under my observation.

Since inflammatory disorders of the Eustachian tube and tympanum are usually secondary to faulty intra-nasal or pharyngeal conditions, it is useless to employ inflation or aural massage until the causal factors are removed. Sprays and medicinal applications are of no permanent value in the improvement of chronic nasal stenosis, but by surgical means the condition can be entirely corrected when the secondary aural disorder will usually take care of itself without much further attention.

I am very glad that Dr. Smith mentioned the danger of carrying bacilli to the middle ear by the different manipulations. This is a very important

point, indeed. I think the trouble of overtreatment of which one of the gentlemen spoke, does not lie entirely with the doctors, but to a great extent with the instrument makers.

SOME OBSERVATIONS ON DERANGED METABOLISM, WITH CLINICAL APPLICATION.*

SAMUEL BELL.
Detroit.

Although more than two centuries have elapsed since Hippocrates prepared a foundation for the science of Psychiatry, a rational and universally acceptable conception of diseases presenting symptoms referable to disorder in nerve structure or function, has not been reached.

It can not be denied, however, that when the cause of a certain morbid process has been discovered, the treatment of the case can be made more rational and effective.

The views I will herein set forth have been gained from practical experience during the past decade, aided and stimulated by the opinions and observations of other interested workers in this field.

Bouchard and his pupils deserve much of the credit for the widespread interest and practical results which have arisen through a study of autointoxication. Although the statements and theories elucidated by him have not all received acceptance and substantiation, he has prepared the way for a broader and more rational conception concerning the causation of disease in general, and of nerve and mental disorders in particular.

The conception of autointoxication is not merely an attractive hypothesis, since

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positive facts have been brought forth in defense of this theory, and new evidences are being continually adduced from the field of physiological chemistry, physiology, pathology and bacteriology, thus lengthening and tightening the already large chain of evidence. The accepted definition of autointoxication is a poisoning of the organism by the products of its own metabolism, which substances may be either normal in character, but abnormal in quantity, or abnormal in character.

THE PRODUCTION OF LEUCOMAINS.

There are continually being formed in the body, under normal conditions, certain products resulting from metabolic processes, and if these accumulate in large quantities disease may result. These substances have been termed leucomains, products formed in the tissues not through the intervention of bacteria, but through fermentative processes or retrograde metamorphosis. Leucomains are basic in character, but their unstable constitution makes it evident that the isolation and identification of these products from the blood and tissues, and their injection into animals for the purpose of eliciting symptoms of poisoning is a most difficult problem, and often impossible of accomplishment.

The leucomains have been divided into the uric acid and the creatinin groups, the Xanthin bases being representative of the former. The excretions of the human being are toxic, even though the individual partakes only of chemically pure and bacteria-free air, water and food. These poisons must originate somewhere, and scientific investigation has traced their origin to substances resulting from the disintegration of cells, namely leucomains.

The hydrocyanic radicle is found as a frequent constituent of the leucomains, which may explain a portion of their poisonous action.

ORGANS OF DEFENCE AND ELIMINATION.

While certain organs or cells are occupied in manufacturing poisons, others are engaged either in arresting and excreting these poisons, or in chemically changing them into useful or harmless bodies. Upon these organs of defence, therefore, rests the responsibility of so disposing of the poisons continually being formed in the body, that the latter may become innocuous to their deleterious action.

These organs of defence perform their duties faithfully when all the bodily functions are acting normally and in harmony, and when no excess of noxious matter is introduced from without.

Thus autotoxemias as a rule result from some disturbance existing between the formation, and the destruction or excretion of these harmful products of metabolism, there resulting an accumulation of these products in the tissues and circulating fluids. It is the function of certain organs, therefore, not to make it possible for enough toxic material to accumulate in the blood, to give rise to systemic disturbances, either acute or chronic in nature.

These organs of defence have been divided into two kinds, those of transformation or arrest, as the liver, gastrointestinal mucous membrane, spleen, lymph glands, adrenals, thyroids, etc.

These possess the power of opposing the various foreign and poisonous substances brought to them by the blood and lymph, and of converting them into non-toxic and non-assimilable bodies, or of filtering out and rejecting them entirely,

as represented by the liver and its secretion, the bile.

Then we have the organs of elimination, such as the kidneys, lungs, intestines and skin, whose duty it is to remove from the circulating fluids such toxic substances which either escape the organs of arrest, or are formed later in the muscles and other tissues.

The present conception of autointoxication is, therefore, dependent upon a disorder of the normal metabolic processes above described, and undoubtedly it supplies a reasonable explanation regarding the origin of many complex neuroses hitherto left unexplained.

RESULTING STRUCTURAL ALTERATIONS

That structural alterations are produced in the various organs of the body by the continuous action of these poisons of internal production, especially upon so delicate a structure as the neuron, has been conclusively proved. Pathology has demonstrated the retrograde metamorphosis resulting from the action of mineral and vegetable poisons upon the organ and cell, and the more recent work of Van Gieson and others, has shown the destructive effect of certain autotoxic poisons upon the nervous structure.

A cortical motor cell has a well defined minute structure and function, the granular constituents being the reservoir of cell energy. When death has supervened from secondary causes after severe epileptic convulsions, these cell granules are found to be altered, being broken up through the action of abnormal or toxic substances, the functional indication being an uncontrollable and violent explosion of nerve force in the form of convulsions.

If these toxic agents can be removed or decreased, through proper treatment,

the cell resumes its normal function; if prolonged, the nucleus and then the entire ganglion cell and characteristic function becomes disintegrated and beyond repair.

The majority of nervous and mental disturbances due to autotoxemias have been found to owe their origin primarily to the stomach, intestines, liver, kidney, and various glandular organs, but there are also other sources of internal intoxication, as the lungs, skin and circulatory apparatus.

THE GASTRO-INTESTINAL CANAL AS A FREQUENT SOURCE OF AUTOINTOXICATION.

The gastro-intestinal canal is the most frequent source of autointoxications. As a result of disorder here, ptomaines and other products may result, which in turn after absorption, may be the starting point in the manufacture of leucomaines, if they themselves are not directly the irritating agents.

FERMENTATION AND PUTREFACTION.

The production of fermentation and putrefaction, the former mainly in the stomach, and the latter in the intestines, results in many of the human ills and nervous wrecks which our congested civilization exhibits. The gastric fermentation follows the excessive ingestion of carbohydrates, while putrefaction depends upon the presence of albuminous bodies for its existence in the intestinal tract.

CHEMISTRY OF AUTOTOXINS.

Among the deleterious products formed during gastric fermentation, which if absorbed, may disturb normal metabolism, are lactic, butyric, and acetic acids.

The intestines, however, on account of varied ferments, and the presence of albumens which favor the multiplication of the anaerobic bacteria and their products, fur-

nish the most varied number of toxic principles harmful to the organism after absorption.

Extensive experiments have been conducted in the isolation and investigation of these agents, and their subsequent injection into animals for the purpose of eliciting toxic symptoms.

Foremost among these investigators are Brieger, Selmi, Gautier, Buchner and several others.

Among the substances found following albuminoid putrefaction may be mentioned ammonia, cystin, hydrogen sulphid, and leucin and tyrosin, representative of the amido acid series; a group of aromatic bodies, derivatives of benzol, phenol, cresol, indol, skatol, etc.; diamines, such as Brieger's cadaverin and putrescin.

PTOMAINS.

The latter brings us to a discussion of the ptomains, the most important products resulting from intestinal decomposition. A ptomain may be defined as an organic chemical product, basic in character and formed by the action of bacteria on nitrogenous matter.

Although these ptomains result from saprophytic action, disturbances following their absorption may still be classed as autogenous, since the lower forms of vegetable life which act upon the albuminous contents of the intestine are normally present during the life history of the human organism.

The name ptomain was first applied by Selmi to these organic, basic substances. They may be called the putrefactive alkaloids. Not all ptomaines are poisonous, however. He performed extensive experiments and demonstrated the fact that animal alkaloids quite similar in constitution and action to those from the

vegetable kingdom, might be produced in cadavers as well as in the intestinal canal. Many of these ptomains resemble in chemical reactions, strychnine, atropine, morphine, and other vegetable alkaloids.

EXPERIMENTATION ON ANIMALS.

During a celebrated trial in Italy, where the prosecution endeavored to make out a case of strychnine poisoning, the prisoner was acquitted upon the testimony of Selmi that the base present was cadaveric in origin. Many experiments have been employed upon the lower animals for the purpose of eliciting, if possible, symptoms similar to those observed in intestinal toxemias. I cannot enter into a description of the many investigations carried out along this line, though careful observers have demonstrated that autotoxins isolated from the alimentary canal cause symptoms similar in animals to those observed in human beings. Treatment further demonstrated that the removal of these toxic products resulted in a cessation of symptoms of disorder.

The intestinal excrements were extracted with various reagents, and after purification so far as possible, the various constituents were administered to animals, through different channels.

The absorption of Indol is responsible for many of the disorders referable to intestinal toxemia. Herter has performed some interesting experiments with this substance.

When given in continued doses to a rabbit, for some time, emaciation results. When a solution of Indol was injected into the animal's intestines, there resulted contraction of the pupils, muscular twitchings, cardiac weakness, feeble respiration, and general depression.

Three men took small doses of Indol,

for experimental purposes, beginning with $1\frac{1}{2}$ gr. or 1-10 gram. Dull headache resulted. Larger doses produced severe colic and diarrhoea in one. Another experienced great discomfort, intestinal flatulence, headache, and insomnia. The third had the same symptoms only more severe. The reaction for indoxyl and the ethereal sulphates was greatly increased in the urine.

All of the cases showed exhaustion.

A STUDY OF THE URINE.

A study of the urine naturally confirms the absorption of intestinal toxins, inasmuch as after their absorption, they are more or less transformed in the body, and then increased elimination of the end product above normal, occurs in the urine.

The presence of various foreign substances in the urine may, therefore, lead to the discovery of their method and locality of production. The presence in comparatively large amounts in the urine of benzoic acid, the ethereal sulphates—indoxyl and skatoxyl, phenols and cresols, cystin, leucin and tyrosin, acetone, acetic acid, β -oxybutyric acid, etc., all refer to some alimentary toxemia, or a disorder in metabolism directly referable to it.

Singer has found almost regularly, in skin diseases associated with digestive disturbances, an increase of the putrefactive products absorbed, as shown by the excretion of an increased amount of ethereal sulphates in the urine.

Space will allow the discussion of only several alimentary disorders which have been clearly proven as the irritating influences in the origin of many nervous and mental disorders, especially those of a neurasthenic and hypochondriacal character. I will refer briefly to the so-called

nervous dyspepsia, dilatation of the stomach and constipation.

NERVOUS DYSPEPSIA.

Nervous dyspepsia is a form of indigestion marked by the manifestation of nervous and other symptoms directly referable to gastric disorder as the instigating factor. There is usually present a feeling of malaise, headache, dizziness and insomnia.

Hysterical and neurasthenic symptoms may appear.

The etiological factors at the base of this can very often be directly attributed to faulty hygiene and errors in diet.

As a result, too much work is thrown upon the stomach, and there results either an increase or decrease, or entire absence of free hydrochloric acid to carry on normal digestion. Thus an interference with nutrition follows, and gastric digestion is either carried too far or not far enough, as a result there being an absorption of these sub-end products of gastric digestion.

These in turn may be the starting point in the manifestation of nervous symptoms, directly or secondarily, through the production of leucomains.

As a result of fermentation, lactic and butyric acid, eructations of gas, etc., may take place, due to the work thrown upon the digestive organ. These products after absorption are responsible for the headache and oppression.

Peptones and albumoses formed during digestion do not normally reach the general circulation as such. Injection of these substances into animals lowers blood pressure, depresses the heart, and destroys the coagulability of the blood.

Lauder Brunton attributes the weakness, languor, dullness in the head, and

depression after a full meal, to poisoning with peptone. Its detection in the urine proves its entrance into the blood.

DILATATION OF THE STOMACH.

Dilatation of the stomach is frequent among the gastric disorders productive of nervous symptoms. Errors in diet are again the main causative factors. A diminution in mental and physical vigor ensues. Among the characteristic symptoms are headache, insomnia, vertigo, undue sensibility to cold, and in one case I have observed, especially during the morning hours, there was confusion of ideas, incoherence, and obscuration of sight.

A study of the urine shows an increase of urates and acidity, and the presence of peptones.

COPREMIA.

Among intestinal disturbances, constipation is foremost in favoring the production and absorption of toxic products. The term copremia has been applied to this condition, and the symptoms characteristic of this are well known, such as dizziness, lassitude, headache, insomnia, hypochondriasis, neuralgias, etc.

The majority of these symptoms are probably due to the absorption of the putrefactive products arising from the retained faeces. This is demonstrated by the increased transference of the products of putrefaction to the urine. Chemical examination of the urine discloses the presence usually of indican.

The history of tetany can usually be traced to some gastro-intestinal disorder, and Albu, in his admirable discussion on this subject, asserts this disease to be a most brilliant example of a gastro-intestinal autointoxication. Most of the cases may, if carefully investigated, be traced

to some form of gastritis, acute or chronic, dilatation of the stomach being the most common disturbance. Albu obtained from the urine of certain cases the salt of an alkaloidal-like body, which was always present during tetany attacks but never during free periods. The injection of this in animals produced an artificial tetany.

CHARACTERISTIC SYMPTOMS OF LIVER DISTURBANCE.

Autointoxication from the gastro-intestinal tract is closely related to poisoning directly referable to the liver. Self poisoning may take place either from a disturbance of the liver parenchyma itself, by poisons generated within itself, or through the secondary action of poisons received from the intestines, which may enter the circulation without the protective and destructive action of the hepatic function being exerted.

In consequence of interference with hepatic function, carbohydrates are not properly stored as glycogen, the formation of urea, the best diuretic, is interfered with, and the antecedent bodies of the amido acid series—leucin and tyrsin—are excreted into the blood, as shown by their detection in the urine.

Various hepatic disorders, such as atrophy and cirrhosis, may interfere with its normal function. Cholemia is a fruitful source of nervous manifestations and results when the constituents of the bile are passed into the blood. Following the absorption of bile salts and coloring matters—bilirubin—into the blood, certain definite symptoms ensue. General fatigue, ill humor, cerebral exhaustion, sleepiness, bradycardia, itching, and often disturbances in the senses of hearing and taste may often be directly traced to disordered hepatic metabolism.

The injection of comparatively large quantities of bile salts and bilirubin, into the lower animals, have been found to produce somewhat similar symptoms. It has been found that bile salts dissolve and break up the red blood cells and other body cells. Haemoglobin thus becomes diffused more or less into the blood, and as a further result following the setting free of toxic elements entering into cell constituents, intoxication follows.

Ordinarily, and if unobstructed in its passage to the intestines, the bile becomes insoluble and is excreted.

It has been demonstrated, however, that if all the bile could find an entrance into the circulation, the individual would be poisoned by his own bile, in eight hours.

A CASE OF GASTRO-INTESTINAL AUTOINTOXICATION.

Just about one year ago a case was brought under my observation, which presented a complete picture of autointoxication.

He was a man of 64. Retired farmer by occupation, and had been in ill health and unable to transact his business for several years, having complained during that time of indigestion, constipation, pain in the head and insomnia, finally becoming completely prostrated.

He was in a deplorable state when first seen, and presented the following prominent symptoms: There was present a dilatation of the stomach and hyperacidity of the stomach contents, with acetic and lactic acid fermentation. Upon arising in the morning, there was great confusion of thoughts, as is so often characteristic of the latter disorder. Constipation and liver torpidity were marked. The urine was decreased in amount and highly colored, containing tube and fatty casts and

albumin, characteristic of a chronic nephritis. Dropsy was marked. The heart was hypertrophied, the vessels being stiff. A diffuse erythema covered the skin. Uremia was rapidly setting in, when he was put under treatment.

Great muscular weakness and incoordination of voluntary motion, with pain in the occiput and insomnia were marked. Delusions, both variable and fixed, in addition to hallucinations and illusions, were present. In fact, a careful examination of the patient, quickly convinced me that the man was suffering under a load of autotoxines.

MODE OF TREATMENT.

The results of treatment along this conception of his disorder demonstrated the truth of my diagnosis. Rapid elimination was instituted by means of suitable diuretics and hot baths and sweating.

The bowels were unloaded, diet was carefully guarded and digestion was assisted by mineral acids and strychnine. The flagging heart was kept up by aconite and the tension in the arterial system was reduced by nitroglycerin.

Owing to the saturation of the patient by the varied toxins, and their deleterious action upon the delicate nerve structures, some months of careful treatment were required to restore the body cells and function. The chronic condition existing in his heart and kidneys, together with the sclerotic condition of his vessels, would naturally make his complete recovery impossible. To-day, however, the patient enjoys life with the necessity of very little medical treatment. His appetite and digestion are good, the bowels act normally, and the heart and kidneys functionate with less difficulty. Sleep is natural, and

the entire physical and mental body act more vigorously and in unison.

The results of treatment in this case have demonstrated that the vital organs and functions have been restored to such an extent that normal metabolism will be carried on sufficiently well to give the patient comparative health and enjoyment for at least several years.

A CASE OF MELANCHOLIA.

Though melancholia may be due to a number of disturbing factors, among which gastro-intestinal disorders are prominent, I wish to illustrate one case of pronounced mental depression due to a disturbance in thyroidal function.

The patient, aged 24, married, had been previously well until two months before treatment was instituted. She presented the picture of autotoxis—the dull, expressionless face, interference with memory and the ability to think and speak, and the slow, labored gait and characteristic decrease of voluntary action.

THYROIDAL DISTURBANCE THE CAUSE.

Alimentary disturbance was slight in this case. The underlying cause of her trouble was apparently situated in her thyroids, which were found to be greatly enlarged. Her complexion was pasty and her skin felt doughy to the touch. The woman weighed 190 pounds, there being a marked super-abundance of adipose tissue, so characteristic in many cases of thyroidal disturbance.

I reasoned that the thyroid gland was not functioning properly, and though hypertrophied, the secretion was either not sufficient in quantity requisite for normal metabolism or else was not of the proper chemical character. The striking effect of the thyroidal secretion upon cell meta-

bolism has been clearly demonstrated by many reliable laboratory investigators.

As a result of this secretory deficiency, the antitoxic action of the thyroid, if that is the true explanation of its function, was not sufficient to destroy the toxines liberated during cell metabolism or on the other hand, the secretion may have been lacking in some of the glandular organs such as the spleen, adrenals, lymphatic glands, etc., and I will, therefore, content myself with a few remarks concerning the salient features of thyroidal disturbance.

The employment of thyroid extract in certain nervous and mental disorders furnishes another link in favor of the autotoxic theory.

ACTION OF THE THYROID SECRETION ON METABOLISM.

The thyroid gland pours its colloid secretion into the circulating fluid, and when this is altered either in quantity or quality, certain nervous and other symptoms develop, pointing towards a disordered metabolism in the gland. The two theories most widely accepted and substantiated, relative to thyroidal function are, that it either furnishes a secretion essential to normal metabolism, or that it pours some chemical substance into the organism, which acts as an autotoxin to the poisons daily formed and liberated during metabolic action, and changing or destroying deleterious substances circulating in the blood.

The effect of thyroid extract on metabolism has been conclusively established by Baumann, Horsley, Hutchinson, and many others. Laboratory experiments have demonstrated that extirpation of the thyroids and parathyroids in animals, results in characteristic nervous manifesta-

tions, convulsions, paralyses, cachexia, dyspnoea and death.

It has been observed that the thyroid glands are often atrophied in certain nervous and mental troubles, and this led to its employment as a remedial agent. In the palliation and removal of certain systemic disorders no more brilliant results have been obtained in Internal Medicine than by the administration of this medicament when rationally indicated.

The employment of thyroid extract in cachexia thyreopriva, myxoedema, and cretinism, has given wonderful results. The cachexia, weakness and heaviness in the limbs, dullness of tactile sensations, retardation of muscular action, difficulty in thinking, and general decrease in mental and intellectual power, are all either dispelled, or greatly improved, while administration is contained.

ACTIVE PRINCIPLE IN THE THYROID SECRETION.

Poehl has performed experiments showing that spermin is found in the thyroid, pancreas, testicles, etc., and is at least one of the agents which maintains the oxidation powers of the organism at normal height. In the case of the thyroid secretion, however, it has been practically demonstrated, that an organic iodine compound is the active principle. When this latter is isolated from sheep glands, and administered to animals upon whom thyroidectomy has been performed, there ensues very soon a subsidence of all the nervous symptoms.

Many investigators, as well as myself, have employed the extract where a disordered or arrested metabolism has been considered to have resulted from disturbance in the thyroïdal secretion, with the

most surprising and successful results. I have obtained very beneficial effects from its employment in stuporous conditions, melancholia and mania.

A YEAR'S EXPERIENCE IN ORGANIZATION IN MICHIGAN.

LEARTUS CONNOR, M. D., DETROIT.

(Continued from August, 1903, page 385.)

Not only did each councilor do his own work, but freely responded to the calls of brother councilors. The president always went wherever asked, as did the secretary, both rendering invaluable service. Thus Michigan had a corps of self-sacrificing men in the field from start to finish—so may any other state.

Most essential in this work is personal teaching—one who has learned and believed in organization carried it to those who had not learned or did not believe. The short cut of circular or journal article will fail either to organize or maintain such societies. To not a few was it a revelation to observe so many men, without hope of personal gain, toiling through Michigan, during an entire year, in organizing branches to the state society—but the fact gained hosts of adherents.

In general the officers were directed to do two things: (1) to make the society as valuable as possible, and (2) carry a knowledge of this to every physician in Michigan, with such persuasive power as to induce him to become an active member of his branch of the state society. To the utmost limit were they to make it more profitable and pleasant for each doctor to be in than outside the society. Actual results measure their extraordinary success.

It must not be supposed that no difficulties disturbed the work of organization, but in every case a fair hearing and full comprehension of the proposition won adherents. So universal was this experience of the councilors that they are sanguine of similar success in the future.

Most wholesome was the lesson to individuals, that unless members of a branch they could have no part in the meetings of other branches in the state society or the American Medical Association. To gain these relations not a few joined their branch society. To be thus supported by the larger bodies has been a pillar of strength to the branches.

The leaders in Michigan organization well understand their work has only begun; that physicians must be persuaded to work in their local branches, and those already therein encouraged to work out their own development, that of their branch, and the state society. The officers of the branches have this work primarily in charge. If they fail it is for the councilor, by such means as seem wisest in each case, to awaken interest and stimulate effort. In fact, one great problem before the councilor is to find the best method of securing and keeping the highest activity of the branches.

(TO BE CONTINUED.)

The Journal of the Michigan State Medical Society

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Editor A. P. Biddle, 57 Fort Street West, Detroit, Mich.

Subscription Price, Two Dollars per year, in Advance

SEPTEMBER, 1903

Editorial

THE IMPORTANCE OF THE FALL MEETINGS OF THE COUNTY SOCIETIES.

With the advent of the fall renewed interest centers in the work for the coming year. Most of the County Societies meet quarterly and those which have monthly meetings usually forego them during the warm weather, so that the majority of the County Societies will meet afresh this month. The dates of the meetings will be found on page xiii of the advertising columns of the JOURNAL, a perusal of which will show that many of the annual meetings occur during the next two months. We earnestly hope that not only the Officers but every member will make renewed effort to make these first meetings a success, that the enthusiasm engendered will give the impetus necessary to carry on the work through the winter. We want not only the present members retained, but we want to go into Grand Rapids next year with many more on the rolls, and this work can be done only by an earnest, self-sacrificing effort on the part of every one. To meet best these needs many of the Councilors have completed arrangements to meet with the Officers of the County Societies within their respective districts that they may confer as to ways and means. These conferences should result

in much good to the State Society and the Branches.

The attention of the Secretaries is again called to the blank forms for the use of the County Societies in the transaction of business, printed in the *August* issue of the JOURNAL, and to be obtained upon application to the Secretary of the State Society.

THE BENZIE COUNTY MEDICAL SOCIETY ORGANIZED.

It is with great pleasure that we add Benzie County to the list of the County Medical Societies. Established in a county sparsely settled, with, formerly, but little opportunity and less encouragement for the physicians to gather together, we appreciate the difficulties under which the Society was organized and will be maintained. We hope, however, that the impetus to get together given all over the State will encourage the members to hold their own; and we trust that under the leadership of Dr. E. J. C. Ellis, of Benzon, as President, and Dr. Ezra L. Covey, of Honor, as Secretary, the organization will soon become one of the strong branches of the State Society.

ATTEND THE MEETINGS OF YOUR COUNTY MEDICAL SOCIETY.

"No organization can be wholly successful without enthusiasm in its membership and the State Society expects of its members something more than a passive comprehension of its aims and purposes. It expects active co-operation and continual effort to assist in the growth of organization, the enlargement of its field of usefulness, and the strengthening of its influence."

That apathy still exists among not a few of our members is too apparent from the communications received from the Secretaries of some of the County Societies. Let every physician take this matter to heart. Certainly no one can doubt at this hour not only the value but the necessity of organization to himself as an individual and to our profession as a whole and every one must know his worth in the work of his County Society. Let every member attend the next meeting and show by his presence that he is earnest in his sympathy with the work and so give encouragement to the Officers in their endeavor to provide means to make every meeting a success.

County Society News.

ALLEGAN COUNTY.

A regular meeting of the Allegan County Medical Society was held June 25th, 1903, in the G. A. R. Hall at Allegan, Mich., President W. H. Bills, Allegan, in the chair. The following members were present: W. E. Rowe, Allegan; G. G. Taylor, Allegan; J. D. Campbell, Hopkins; Milton Chase, Otsego; Sarah Chase, Otsego; and G. B. Nichols, Martin. The following visiting physicians were also present: Drs. Todd, Amsden, Robinson, and W. H. Haughey.

A report of the delegates to the State Society Meeting was read and approved.

Dr. W. H. Haughey, of Battle Creek, presented a paper on "The Diagnosis of Abdominal and Pelvic Malignant Growths," followed by a description of several illustrative cases. Cases of medical and surgical interest were reported by different members and were discussed. Drs. Todd, Taylor, Sarah Chase, Robinson and Campbell were appointed to prepare papers to be read at the next regular meeting in October.

WM. S. ALBRIGHT, Sec'y.

REPORT OF THE DELEGATE, MILTON CHASE, OF THE ALLEGAN COUNTY MEDICAL SOCIETY, TO THE MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY, HELD IN DETROIT, JUNE 11th AND 12th, 1903.

Mr. President and Members of this Society— I wish to state at the outset that I am not a shorthand reporter and could not take verbatim

report of what I heard as your delegate. Fortunately there was no need of this as all the important business of the House of Delegates will be published in the JOURNAL of this Society and you can read it and think it over at your leisure.

I shall, therefore, confine my report mostly to what you will not be likely to find in our journal.

A delegate to this body, as well as to all like societies, to be efficient must have a large personal acquaintance among its members or a loud mouth, a strong push and an earnest desire to have the convention do something for him, which is generally the case with the fellow who forces himself to the front, but exceptionally a man may crowd himself into notice and a working position who is in earnest to do something for the Society and its constituency.

Most of the delegates have no work in the House of Delegates, except to vote on the propositions that come before the body. They are the silent workers that accomplish results, they are the men that honor the Society and make the Society honorable.

The ballot is as useful and effective in this Society, to its work and its honor and usefulness as it is in any other Society. I make this statement to emphasize its importance and impress our members that when we shall, in the future, send out a delegate we ought to select a member who loves and honors our profession and can exercise good judgment as to the acts that shall make us a useful factor in the State.

Organized societies are now supplanting individual men as moving forces in the State.

The medical profession in this State is getting itself together, so that it will be a mighty force among the people of the State. State medicine is a thing coming to great importance among us. I hope we shall realize it and rise to the work with generous patriotism, great zeal, and heroic work.

Our profession originated as a side issue of Priestcraft, but like another side issue of long, long ago it is getting to be the dominant force, the whole thing, in making the genus homo a man. The time is past when D. D's. and M. D's. had distinct and independent fields to work in. The State is asking us to see that criminals and degenerates are not born and that conditions are done away with that will produce them. We have convinced the State that an insane man is a diseased man, not one possessed by the devil. The priest, with his prayers, has been pushed aside for the doctor with his medicine case.

The plague and the pest are no longer the ex-

pressions of divine wrath, calling for the man in broad cloth and white neck-tie to guide the people in national prayer; but it calls for the man in tweed to direct the scavengers at their work.

We doctors are now to be held to the jury for punishment if we let a contagious disease run to riot in our jurisdiction. If our Society shall endorse a man as a competent doctor by admitting him to membership with us, we shall be held accountable as a body for his work.

We, individual members of this Society, make the Society strong or weak, for work among men in this county, a weak member, a rotten member, may be our failure or ruin in good work. The reputation of this Society as an authority in matters of hygiene or State medicine may be made by the expressed opinion of the least capable member among us as well as by the best posted one of us.

Our Society will now obliterate us as individuals in this county and we must rise or fall with it. We must be as careful of its repute as we have been of our individual selves. Every resolution, every declaration, every act of this Society should be one of honor and truth.

This is a prelude to my saying that this Society should consider well, discuss freely and state our opinions clearly on the matters of State medicine that the State Society shall refer to the State Legislature. We, this Society, will be asked to influence our representatives in the Legislature on certain matters of legislation. Shall we do it, shall we do it effectually? I say yes if—if the matters asked for are just, practicable, and will make us a better, happier people and State.

Because the State Society shall ask us to endorse their resolutions and request, to, and of the Legislature is not an all sufficient reason for us to do so. This Society is an individual of the State Society. I hope it is not a puppet, a dummy, an automaton, an inanimate thing without a mind or soul to say yes or no like an echo.

When we shall ask our representatives in the Legislature to do something for us (or the people) let the asking be accompanied with reasons clearly stated, showing our motives for the asking. We can thus bring honors to our Society and a blessing to the State.

We shall not be limited in asking for matters of legislation to passing upon matters referred to us by the State Society; but our Society can ask such favors or rights for itself of the Legislature, directly or by sending up by the State Society.

Another work by our Society that I deem of

importance and is indirectly referred to us by the State Society is that of standing by the clause in the Nottingham bill "prohibiting the publication or circulation of obscene advertising matter and urge upon the board of registration the strict enforcement of the extreme penalty of law against all offenders."

Shall we stand by the State Board of Health in its measures and urge the people to do so. This was hinted at but not clearly requested by a speaker before the State Society.

Now then, members of this Society, I hope I have said something to set you thinking and something that will not be forgotten in an hour, and above all I hope that something I have said will result in good work by this Society in the future.

GENESEE COUNTY.

The regular quarterly meeting of the Genesee County Medical Society was held in Flint, July 28th, 1903.

The following program was presented:

Frederick A. Cady, Flint, read a paper entitled "Some of the Whims and Fads in the Practice of Medicine and Surgery."

Discussion opened by Albert Lynch, Flint.

Wm. G. Bird, Flint, read a paper on "Adenoids and Their Effect upon the General Health."

Discussion opened by S. T. Conover, Flint.

E. D. Rice, Flint, presented a case of "Periodic Tachycardia of Neuropathic Origin."

J. W. Handy, Flint, demonstrated the "Construction and Use of a Plaster of Paris Splint."

R. N. Murray, Flint, reported several interesting surgical cases.

The following physicians were elected to membership: W. H. Taylor, Clio; Abram Goodfellow, Clio; Robert Dullam, Flint.

H. R. NILES, Sec'y.

HOUGHTON COUNTY.

The Houghton County Medical Society met at Calumet, August 3, 1903. Following are the officers:

President—A. I. Lawbaugh.

Vice-President—J. E. Scallon.

Secretary—W. K. West.

Treasurer—E. T. Abrams.

PROGRAM.

1. Report of the Delegate to the State Medical Society, C. H. Rodi, Calumet.
2. Report of an Unusual Case, A. B. Mills, Calumet.

3. Report of a case of Typhoid Fever, with perforation, A. A. Davis, Calumet.
4. Paper—Puerperal Infection, E. T. Abrams, Dollar Bay.

MONROE COUNTY.

ANTISTREPTOCOCCIC SERUM IN PUERPERAL SEPTICAEMIA.*

BY CLAREN S. MILLER, TOLEDO, OHIO.

Theories as to the cause and nature of this disease have been as numerous as the terms by which it has been known. These are indicative. "Puerperal Fever" conveys the idea of a specific fever as typhus or typhoid, and one which attacks only in the puerperal state. "Peritonitis" is misleading, as it expresses but one of the conditions present; as is also "Phlebitis," "Metritis," "Metropertonitis," etc. The essential pathology was not known until bacteriology was quite well developed as a science. It was presumed to be an absorption of purulent matter from decomposing tissues in the uterine cavity, such as placenta, foetal membranes or decidua.

Good authorities now assert that true infective puerperal fever or septicaemia has no essential connection with putrefactive organisms or saprophytes, the necessary scavengers of the tissues. This debris may be, and usually is, the carrier or media for the true cause, hence the supposition.

It is to the pathogenic germs that we must ascribe the infection, and these are chiefly the streptococci. They are difficult to find in the blood of the living patient, but that they are there is proven by their abundance soon after death. Their effect on the blood is to mat the corpuscles together so that they do not readily pass through the smaller vessels and thus form impactions and new points of infection.

The lochia in rare cases is inodorous, showing that no decomposition has occurred in the uterine cavity.

With these facts established, the manufacturing chemists have endeavored to produce a remedy along the line of serum therapy, whereby the ravages of the cocci could be checked, and their ptomaines neutralized. This remedy is well known as antistreptococcic serum, and I wish to mention its effects in the one case in which I have administered it. The admission of having had cases in one's own obstetrical practice may

be looked upon as a confession of questionable methods of asepsis or antisepsis. If this suspicion were well grounded, it would be a very serious reflection on the profession in Prussia, where it is said 1/30 of the married women die in child-bed. Perhaps the prevalence of midwife attendance there may partially account for this startling mortality. I admit that the accoucher may directly infect his patient, or that he may more often fail to prevent infection, but this latter may be beyond his power. The hygiene of the surroundings may be such that infection is practically certain. Even in fairly well conducted maternities, the temperature often ranges from 100° to 103°, and is explained by those in charge as the effects of the establishment of lactation. The facts are, as shown by experience, that there is a degree of absorption of sepsin and even of ptomaines, constituting sapremia in not only every case of parturition at term, but also in miscarriages at any stage, e. g., a temperature of 100° from miscarriage in the 3rd or 4th week of pregnancy, in which the products are expelled *en masse*, and nothing can be left for absorption, but the disintegrating decidua.

I was called in to the case in question, from the road, not knowing its nature until my arrival, and without the ordinary obstetrical outfit. The entire household was the most unsanitary imaginable, the child-bed being especially vile. The usual progress was soon interrupted by a violent attack of eclampsia, the spasm recurring twice at half hour intervals, with increasing violence.

Six miles from my forceps, with no ergot to hasten the somewhat tardy pains, nothing was left but to continue the unconsciousness of the last spasm, by chloroform (which was used freely in each), and deliver as quickly as possible, by using the hand in the vagina as a vectis. As the patient was a primipara, but 17 years old and rather slight in build, this was not easily accomplished. One of the effects of this manipulation of the head and incidentally of the eye-lids was a purulent conjunctivitis, such as I have often traced to this cause, as related in a previous paper. It is not always gonococci which produce ophthalmia neonatorum. Cleanliness was out of the question and as anticipated, in a few days symptoms of infection were apparent. Intra-uterine douches were freely used, and the degree of infection was notably decreased, but the patient finally became intolerant of them on account of the pain produced. Superstition and ignorance in the patient and her mother were obstacles in the treatment, and finally when the pulse reached 135 and the temperature 103°, I

*Read before the Monroe County Medical Society at Monroe, July 16, 1903.

suggested the use of antistreptococcic serum, but was prevented from using it for two days more, by the aforesaid conditions. Finally with a temperature of 104° , a pulse of 123 and a face becoming blotched and livid from the sepsis, consent was obtained and 10 c. c. of serum, prepared according to the Hubbert process, was injected. Temperature after injection was 105° and I would have been greatly gratified next morning to find it reduced even 2° , so was surprised to find it about $99\frac{2}{3}^{\circ}$, surface cool, face pale, pulse 100, and every symptom of septic infection gone. The gradual but steady progress of the case toward a grave condition and the immediate counteraction of the processes were convincing as to the value of the serum. However, it was used late in the case. The uterus was quite well cleansed of the source of the infection, drainage by the lochia which was suppressed for several days having been re-established. The one moderate sized injection sufficing to meet the existing conditions indicated that it was a favorable case for its successful administration.

Comparing this experience with that of other physicians, I have been lead to the conclusion that the serum can be depended upon only to neutralize existing blood conditions in septicaemia, when the source of the infection has been mostly removed. In this respect, I believe that it acts as well, but no better than antitoxin in diphtheria, with this reservation in the opinion. In diphtheria, we have an infection from a focus, which is covered by the pseudo-membrane, the growth and continued existence of which is promoted by the state of the infected blood. Antitoxin antagonizes this infected blood state, and thereby favors the separation and disintegration of the membrane. In septicaemia, this is rarely if ever the case, viz., that the foci of infection are aggravated by the septic blood state. Consequently the source of the infection is rarely affected by the serum, but must be radically dealt with by other agencies, which must be adequate to the removal of the cause. In other words, do not depend upon the serum to attack the source of infection and successfully overcome it, because the evidence leads us to believe that disappointment will follow, but with the fountain head cut off, the waters below may be completely purified.

Its administration in a case of pyemia from mastoiditis, now approaching dissolution at Toledo Hospital, is a striking illustration. The case was seen by Dr. Alter, three weeks after

the onset, when the pyemic state was well entrenched, and was promptly operated for mastoid disease and 3 c. c. of the serum injected at as many intervals. No effect was apparent, the pyemia deepening into the present state of coma and muttering delirium.

I remarked to the doctor, that in this case, while failing to check the downward tendency, it was of great value as a diagnostic auxiliary, showing that there were other foci of infection, which were pouring their streams of spesis and toxemia into the life current. Its aid in diagnosis may thus be very great in certain obscure cases, especially like the one noted in which many of the cerebral sinuses are filled with septic thrombi, producing no localizing symptoms to guide the surgeon in craniectomy and accompanied by a general meningitis, which makes the case hopeless.

The conclusion is, that properly used, the surgeon not shirking his duty in the removal of causes antistreptococcic serum fills an important place in the antagonism of septicaemia, especially when found in the puerperal state.

Administration of the serum in a second case, August 1, 1903, was followed by the same happy results as the first. Miscarriage had occurred a month previous, and about the time of the appearance of the next menstruation, sudden pain was experienced, necessitating a hurried visit by a physician, who after three calls and without even a digital examination, pronounced her well and dismissed the case. Temperature, July 30, 102.5 ; pulse, 130. An intra-uterine douche of boracic acid solution was given with a leaking bulb syringe, extemporized for the occasion, introducing the ordinary vaginal pipe by touch: sans speculum. Considerable debris was washed away, the pulse reduced 10 or 15 beats per minute, and the patient made very comfortable. Temperature next day remained the same, as considerable pelvic peritonitis was present at first visit, which always continues the temperature as long as it exists. Another douche of mercuric bichloride was given with the usual apparatus and with much less pain. Temperature next day unchanged (102.5), when the serum (10 c. c) was injected in the groin and no douche given. Temperature next day 101, pulse 100, pain and abdominal tenderness almost nil and subsequent recovery uninterrupted.

Autopsy July 25th of mastoid pyemia case mentioned, revealed septic clots throughout the sinuses, even of a crucial form at the torcular Herophili, and in left ventricle of heart. Softened

and disintegrating clots filled the ventricles of the brain. Liver one-third enlarged and hardened; spleen doubled in size, also hardened; kidneys slightly atrophied; cortical substance showing less; left lung congested, atrophied, and firmly fixed by adhesion to costal pleura and thoracic wall. No visceral abscesses were found, though many had appeared on the surface. A degree of general meningitis completed the verification of the anti-mortem diagnosis as to the further inoperability and hopelessness of the case.

OTTAWA COUNTY.

THE MEDICAL PROFESSION—ITS WORK AND OPPORTUNITIES.*

BY HENRY KREMERS, HOLLAND.

At a meeting at Grand Haven, when this Society was organized, you selected me to be your President. Your efficient Secretary informed me that an address was expected from me on this occasion; no subject was assigned and I was at liberty to choose. I did not select a medical topic, and will not try to give you a long description of some disease and the best way to effect a cure; neither will I try your patience by reading a long and exhaustive address which would not benefit any one of us.

Allow me, in the first place, to thank you all for the honor in selecting me to preside over your deliberations. We certainly have members in this Society who could fill this place with more efficiency, and could deliver an address on this occasion which would be more inspiring than I could hope to do. The medical profession in which we are all engaged is a noble one. The lamented Dr. Dunster, professor of Obstetrics and Gynecology, at the University of Michigan, frequently used the expression, "It is the most God-like profession on earth."

There is no class of men who sacrifice so much, who devote so much of their time for the benefit of their fellowmen, who are subject to so much unjust criticism, and who are subject to so many annoyances as these members of the medical profession. No other profession can equal the medical in what it has done for humanity in the past and the future is full of promise, prophesy and inspiration.

This nation has been an asylum of the oppressed people of the earth, and it must be admitted that a great and sincere humanity has been shown for

the care and protection of the unfortunates. But consider for a moment what an important part the medical profession has taken in this. The asylums and the homes have been erected, the blind have been made to see, the dumb to speak, the cripple to walk, and the insane have been rescued from the evil spirits that possessed them. Smallpox could be wiped off the face of the earth could we only persuade people to be vaccinated, thanks to the immortal Jenner. And compare one Jenner with a thousand lawyers or preachers, and who will dare to deny that he outweighs them all. Cholera, that most dreadful pestilence that stalked the earth and counted its victims by the millions, has been bridled and will never get beyond New York harbor again, thanks to the investigations of men who belonged to our most noble, most God-like profession.

Hydrophobia has been studied in our day with the result that is most marvelous; and those threatened with that most dreaded affliction can be rescued and cured from its tortures and certain death, thanks to that great man, Pasteur; and who will dare to deny him a place among the greatest of this earth—Pasteur did more for mankind than all the priests and monks of France. Diphtheria was called the "scourge of America," but thanks to a Bering and a Roux, we have a serum which is a specific and has rescued thousands of children from an early grave and will continue to save as the ages roll on. And the names of these men, who made these important discoveries, will be remembered as long as the world continues to exist. Tuberculosis, that most dreaded affliction, has been studied and is better understood to-day than ever before; and while our hopes have been disappointed in not having in Tuberculin a cure, we can rest assured that we are on the way to treating the disease more intelligently than ever before; and in communities, where the disease is understood, the death rate is on the decline. I shall not tire you by mentioning more in this same line. I might mention the wonderful progress that has been made in surgery, gynecology, etc. With what has been done in the last twenty years, who of us would not be inspired and press on and help to accomplish still greater results? There is great work to be done at the beginning of this 20th century. Great problems remain unsolved and the field is open to all. We cannot expect to become as famous as a Jenner or a Tait, or a Pasteur, or a Koch, or a Murphy; but there is room for all of us to carry forward the great work in which we are engaged. Allow me to make a few suggestions.

*President's address at the annual meeting, July 14, 1903.

Every one of us knows that ignorance of the common people is most appalling in matters pertaining to medicine. Look for a moment at the rapid growth of Christian Science, so called; look at the following of Dowie, of faith cure, of the different forms of quackery, orificial surgery, osteopathy and others. Look at the quacks that flourish on our street corners. Think of the pretenders that come to us from over the sea and diagnose every disease by looking at a bottle of urine. Meditate on these things and who of us will dare to say that there is no work to be done.

Let us not deceive ourselves. A subsidized press will not do it, there is too much money in it for them and they dare not attack them in their pretensions. The clergy will not expose them as the majority of these pretenders are faithful members of somebody's flock and use the cloak of religion to help forward their schemes. I know there are exceptions; we find now and then a magazine that refuses these quacks and patent medicine makers a place in their columns. I would mention two: "Everybody's Magazine" and, among the religious, "The Outlook" and others. According to the Cleveland Medical Journal, the Cleveland Press of last December 13th, contained 1181 inches of advertisements. "Of these 1181 inches, 549, or nearly one-half, were occupied by the advertisements of quacks and nostrums. When a newspaper derives nearly one-half its revenue from the fake in medicine, it is not to be expected that human nature will allow such a paper to hold unbiased views in reference to medical affairs."

Think, for a moment, the tremendous sale of patent medicine accomplished through the advertisement of these nostrums in our public press, and the way they are forced upon a long-suffering, patient public. Examine even the columns of our religious press in our own city and you will be surprised at the objectionable ads. displayed in the same; and the common newspaper, daily or weekly, comes out brazen faced with the most flagrant questionable ads. Open your weekly or daily and you will find the following: "S. P. P. R., not to be taken when pregnant," "The Ladies' friend and regulator," "Pennyroyal Pills, a sure and safe regulator," etc. I could mention more, but these are enough to convince the most skeptical; and no protest from minister, priest or prophet.

Did I say common people? But what must we think of educated people? You will find the signatures of lawyers, editors, statesmen, ministers of the gospel, recommending over their signatures, nostrums. Yes, superstition is still with us. I know of an educated man, one who prides

himself with the degree of D. D., who came to one of my patients to recommend cat's blood to innocent babes when suffering from convulsions, insisting that it had cured his babes when suffering from the same. In discussing this subject with the reverend gentleman, he explained that it was on the principle of "similia similibus curantur" as the feline tribe was subject to fits more than any other. I closed the argument then and there, gladly, to let our Homeopathic brethren have the glory. We should all be missionaries and preach continuously to the public to throw off the shackles of superstition and ignorance. What an immense field there is to instruct the public as to prevent diseases.

I mentioned what progress there had been made in preventing the spread of contagious diseases; but in the adoption of these preventive measures, how hard it is to convince the people to make use of them. Ask any health officer whose line of duty lies in this direction; what ignorance, what superstition, what an amount of deceit will crop out to avoid the instructions of a faithful servant of the people. Take that simple and harmless operation of vaccination; what an opposition we find. Only a few days ago I picked up a religious weekly which contained a long article against vaccination. You must all agree with me that there is work for all of us.

What opportunities offer themselves to improve ourselves in making correct diagnoses. How often are we compelled to treat only symptoms and are at a loss to interpret them as to the pathological conditions present? How often we must admit that we learn much from the mistakes we make.

We all agree that there is strength in unity. What then can benefit us more than to be organized in one strong County Society. It is here that we can exchange our views and benefit by the experience of others, and here we often find how little we do know. It is in a society like this that we can get better acquainted with each other. We all have our peculiarities and frequently misjudge one another. By discussing some disease or operation, how often we learn to appreciate each other and frequently from some obscure country practitioner we receive words of wisdom. Only a few weeks past a successful practitioner of this county told me, "Kremers, I learned from an old, obscure country practitioner how to treat diseases of children." Every honest truth-seeking doctor can be of benefit to this Society.

What a help and benefit we can be to each other by showing a united front when one of our

number is attacked or threatened with a suit for malpractice (and the best informed and most skillful of us is not assured for one day, but what he will be called upon to defend himself against one of them). And I would recommend for your earnest consideration a by-law to our constitution, binding the Society as a whole to be responsible for the defense in defending any suit for malpractice brought against any one of its members. By being united, how many of these suits would fall by the wayside. We all know that suits for malpractice are generally started by some pettifogger of a lawyer or by some careless practitioner, who will so far forget himself as to make remarks about the work of some other practitioner to the patient or his friends. Your limb should have been placed in a plaster of paris cast or, you should have this or that, will often set the ball a-rolling. Besides we have pirates in our profession who continually find fault with their competitors and will urge on a suit. When a party comes to me for an opinion on a case treated by another surgeon, I flatly refuse to have them undo the limb, if I know their object. When a case presents itself without knowing what they come for, I always tell them something like this, "you certainly had good treatment and the deformity is often unavoidable." In a large number of cases, if they call upon a few doctors and all tell them the same thing, they will soon be discouraged and go home in disgust.

And while we are on this subject, allow me briefly to discuss medical ethics. I am very sorry to say that none of us live up to the Golden Rule, "Do unto others as you would they should do unto you." This rule laid down by the Savior of mankind ought to be all the ethics we need. But we are far from the millenium. As has been truly said, "there are several species of the medical pervert, and he comes from great schools as well as from poor ones, and wherever you go you find them."

Then we have the medical commercialist, and he is quite numerous. He considers the practice of medicine simply as a trade or art to get money out of the public. If he meets a cripple on the street he stops to inform him that he ought to allow him to operate. If a mother comes across his path and looks tired and worn out from much worry and work, he tells her that he has made a study of cases like her, and that if she does not take his treatment, she will go into consumption. He finds a lacerated cervix that needs an operation in all his lady patients that have the money to pay for it. He is continually faking with some kind of lymph which will cure every-

thing from an ingrowing toe nail to consumption. He goes to Germany for a vacation and obtains a small quantity of serum at a great prize (according to his statement), which will cure cancer and has a long article written up in the newspapers of the wonderful cures brought about by that serum. He is always breaking up pneumonia and typhoid fever; in fact, all cases of a slight cold, so called by others, are cases of incipient pneumonia. When called in an emergency to a patient of another physician, he will use the occurrence for his own selfish benefit. He was just called in time to save the patient from certain death, he always discovers something important which the other physician has overlooked, often he has some meddlesome women blowing about the wonderful cures he has made and that Dr. B. would treat such a case entirely different and have more success. If an ordinary honorable physician calls upon him to help him in a case, in almost every instance he will supplant the physician and steal the patient and family away from him. You will find this commercialist in every community, but in the small towns and in the rural districts he comes more to the surface. The Bible speaks of the "thorn in the flesh," he is the thorn of the honest medical man in the country district. We cannot get rid of him, but he must be endured. But when once discovered, the honest practitioner shuns him as he would a deadly poison.

On the other hand, personalities should not decide who shall belong to a county medical society. We should deny membership only to those who are not legally qualified and to those who can be proven guilty of unprofessional conduct.

The County Medical Society is the only door through which a physician can become a member of the State Society and The American Medical Association. "Any reputable, legally registered practitioner of the County who will agree in writing over his own signature, to practice non-sectarian medicine only, and who severs all connection with sectarian colleges, societies and institutions, shall be entitled to membership." I quote from the by-laws of the State Medical Society.

This is certainly liberal enough. All can become members on the above quoted conditions. Let us not forget that the old code of ethics of the American Medical Association, although somewhat modified and called by another name, is still the guide by which we should abide. Let us, as a County Society, band together and work, not for the securing of a large bank account, but to inform ourselves to be better practitioners, to

do better work for our patients, to lend a helping hand to each other when in trouble, that we may respect each other and have the approval of our innermost consciousness of doing what is right.

VAN BUREN COUNTY.

The regular quarterly meeting of the Van Buren County Medical Society was held at South Haven, July 30, 1903, President P. D. Carnes presiding. The session was called at 9 a. m. After the regular routine of business an interesting case was presented by Dr. O. M. Vaughan, of Covert, for examination and advice; after which a very interesting and practical paper was read by Dr. G. F. Young, of South Haven, on "Salines and Their Therapeutic Indications" which was followed by a general discussion.

At noon the enterprising druggists of South Haven, C. E. Abell and S. Van Ostrand, took the members and visitors with their wives on board a launch for a ride up the river to the famous resort of Cold Springs, where they served an elaborate dinner, which did great credit to the proprietor of the resort and the generosity of Mr. Abell and Mr. Van Ostrand. After a general social time, the boat ride was continued up the river three miles, and at 5 p. m. we were all carefully landed at the pier whence we started. Everybody had a delightful time, and were unanimous in deciding that South Haven is the finest resort city in Michigan, and her people most generous and hospitable. A vote of thanks was tendered Mr. Abell and Mr. Van Ostrand for their generous and courteous entertainment. It will be a day long remembered by those who were fortunate enough to be present.

N. A. WILLIAMS, Sec'y.

SALINES AND THEIR THERAPEUTIC INDICATIONS.

BY G. F. YOUNG, SOUTH HAVEN.

In the short scope of this paper I wish to bring to your consideration a line of drugs which, in selected cases, have a most pleasing and beneficial action, namely, the salines, and of these especially the sulphate of magnesia.

Of the various salines in use to-day, we might mention the sulphate of sodium, sodium and potassium tartrate, sol. citrate of magnesia, gran. citrate of magnesia and sodium phosphate. All are of more or less value as salines, but are open to a greater or less amount of criticism because of their unpleasant griping or irritating action. If taken in any appreciable sized

dose, they have an extreme nauseating tendency, or, as in the case of the phosphate of sodium, are of so mild an action as to require quite large doses to produce any appreciable effect.

In the salt, $MgSO_4$, or epsom salt, we have a most efficient drug, and one which is quite free from the objections I have just mentioned. It is a white, crystalline salt, neutral in reaction, of salty taste and quite freely soluble in water, and the least irritating of any of the salines.

It acts as a purge by reason of its abstraction of water from the tissues in its passage through the intestinal canal. According to Hare, and all physiological experiments, all strong saline solutions abstract liquids from tissues when brought in contact with them, and as the sulphate of magnesium can be used in quite concentrated forms, it becomes quite valuable where an active depletion of exudates is desired, and still cause as little irritation to the bowels as possible.

Ever since medicine has had its origin it has been a recognized fact that all purulent materials must have a free drainage. The surgeon who would close an appendiceal abscess without proper drainage would be guilty of a criminal procedure, nor would he think of opening an empyema without giving proper drainage. While this is true of exudates which can be reached from the exterior surface of the body, the same principle holds true of the internal surfaces of the body, and especially the intestinal canal. Here we have all kinds of fermentative processes going on, giving rise to various toxins which are just as detrimental to the general economy of the human system as the absorption of pus from an abscess cavity. Here the beneficial action of the saline comes in, which may or may not be preceded by calomel as is deemed necessary by the physician in charge. By its power of watery abstraction it not only acts as a laxative, but it flushes out the entire intestinal canal, carrying with it the morbid products formed there and leaving a cleansed intestinal surface which will far more readily take on reconstructive processes in cases of inflammation and more readily absorb any medicinal agents placed there.

The preparation of the salt most efficacious for such purposes is an aromatic mixture put up in liquid form, 30 grains of salt to 1 ounce; in this form it is quite palatable and is readily retained by the stomach.

In cases of auto-intoxication, in which there is more or less constipation in connection with renal insufficiency, a dose of this solution given in a little hot water before breakfast, acts as a mild laxative and removes a considerable part of such

renal insufficiency by the watery evacuations produced.

It is especially valuable in dropsical cases where free watery evacuations are desired, in which cases it can be given in moderate doses every two hours till desired result is obtained.

In dysenteric conditions accompanied with more or less bloody discharges, when used in connection with the Arom. H_2SO_4 it seems to have an almost specific action, quite readily stopping the blood and putting the bowels in such a condition that any well selected astringent is generally all that is needed to effect a positive result.

Its value in peritonitis I need not dwell long upon where its depleting action is desired with the least possible intestinal irritation.

Another condition in which it has been used to some extent of late is typhoid fever. While the older writers state that diarrhœa occurs in quite a percentage of cases, at the present time I think it safe to say that by far the larger percentage of cases are attended with constipation. The practitioner of years past, knowing that there was an ulceration of the bowels more or less deep, considered it absolutely necessary to keep the bowels perfectly quiet for fear of perforation. In so doing he gave the disease a most excellent chance for its development, for by the very enforced quietude he gave abundant opportunity for absorption of toxins already formed, and also a quiescent medium for the germs of typhoid to develop in. Now, if there is an ulceration of the bowels in typhoid, it seems to me to be just as rational to cleanse its surface as it would be to do the same if the ulcer is on the exterior surface of the body. Osler states that diarrhœa, unless more than three to four stools daily, does not need to be checked, a condition whereby nature tries to throw off in her own way what we try to dispose of by the means of salines. Constipation, he states, he has never seen do harm, although an occasional dose of Hunyadi water he considers well indicated.

Castor oil has been used as such a laxative, and has been well recommended in inflammatory disorders of the intestinal tract, one of its actions being to soothe the inflamed surface and thus aid in the process of resolution. On the other hand it is a somewhat nauseating mixture to take, and produces considerable griping by its peristaltic action and quite a reactionary constipation afterwards. These objections do not hold true to such an extent of the saline I have mentioned, the writers all agreeing that it produces the least irritation of any laxative used in such conditions. According to the dose used it produces a suf-

ficient and satisfactory movement of the bowels with practically no irritating tendencies, and I can personally state that it helps the patient to rid himself of a greater or less amount of gaseous distention, and gives a general feeling of comfort by reason of such action and the greater elimination of the toxins produced in the intestinal tract.

Of course, I do not offer this as a *sine qua non* in the treatment of typhoid, realizing that the germs of the dread disease have been found in other parts of the body than the intestinal tract, but as the majority of such germs are located there, if we can do anything to lessen their number and the poisons they produce with comparative safety to the patient it is our duty to do so.

PERSONALS.

Delegates from the American Medical Association to the Canadian Medical Association, London, Aug. 25th to 28th, 1903: J. Henry Carstens, Detroit; Angus McLean, Detroit.

Dr. James R. Arneill, Ann Arbor, has been appointed Associate Professor of Medicine in the University of Colorado, Boulder.

RECENT CHANGES IN MEMBERSHIP.

NEW MEMBERS.

Lem. S. Barney, Leonidas.
E. E. Bracey, Thompsonville.
E. L. Covey, Honor.
J. E. Curlette, Center Line.
W. R. Ditmars, North Adams.
C. P. Doyle, Frankfort.
R. E. Dullam, Flint.
J. O. Dutrizae, Manistique.
G. O. Edmunds, Honor.
E. J. C. Ellis, Benzonia.
F. M. Gier, Hillsdale.
A. Goodfellow, Clio.
B. Hodges, Armada.
A. B. Lennington, Maybee.
A. R. McLain, Allen.
Chas. Niblick, Reading.
J. Powers, Benzonia.
D. W. Roos, South Frankfort.
I. J. Stoner, Ransome.
Albert Yates, Washington.

CHANGE OF ADDRESS.

W. S. Cossett to South Milwaukee, Wis.
R. E. Hathaway, to Glendive, Montana.
D. R. Harris to Hinchman.
Chas. E. Hooker to 122 Monroe Street, Grand Rapids.

H. R. Mills to Soldiers' Home, Grand Rapids.
 F. C. Myers to 1511 First Avenue, Spokane, Wash.
 R. L. Parmeter to 1416 Hill St., Ann Arbor.
 M. J. Schwanz to 251 First St., Detroit.
 C. H. Steele to 50 Locust St., Detroit.
 V. Wijetunge to 151 Linden Boulevard, Brooklyn, N. Y.
 C. W. Yarrington to Dollar Bay.

DEAD.

Geo. W. Chronch, Shaftsbury, Mich.
 Geo. H. Greene, Marshall, Mich.
 Donald Maclean, Detroit, Mich.

COUNTY MEDICAL SOCIETY ORGANIZED.

Branch No. 59. Benzie Co. Medical Society.

Obituary.

AN ADDRESS ON THE LIFE AND CHARACTER OF F. B. GALBRAITH, M.D.*

Since the organization of the Pontiac Medical Society, eleven years ago, death has knocked twice at our door and each time has taken one of our charter members. The first to answer the summons was one whose mental faculties had become impaired, whose bodily force had become spent and whose work seemed completed. The second summons came and, alas, there quickly left us one whose intellect was still keen, whose large store house of knowledge was unimpaired, whose eye was yet bright, whose hand was yet steady, whose enthusiasm in his work was still unabated, who was still earnest of purpose and stout of heart and who went about continually doing good. Would that the task of presenting a sketch of his life and character had been assigned to a more facile pen than mine so that a complete, distinctive delineation of him might be presented to you; but perhaps my long association with him whom we now meet to honor justifies you in selecting me, and I gladly take up the work.

Franklin B. Galbraith was born of Scotch and Irish ancestry in Sanilac county, Michigan, in 1840. His father was a physician and a pioneer in the early settlement of that part of the state. At the age of seventeen he commenced the study of medicine at the University of Michigan and at

the end of his second year completed his course and took his final examinations but did not receive his degree until March, 1861, by which time he had also completed the course of medical study at the College of Physicians and Surgeons of New York and received its diploma. For a few months he engaged in the practice of medicine at Lexington, Michigan. But the call of duty led him to offer his services to his country in her hour of peril and in October of that year he was commissioned as assistant surgeon to the 10th Michigan volunteer infantry and went with his regiment into the field and was in continuous service in Tennessee, Mississippi and Kentucky until a severe attack of typhoid fever in 1863 compelled him to resign and come north to recuperate. While yet unable for active duty he was appointed surgeon to the board of enrollment for the then 5th congressional district. In that capacity he helped conduct the first and second drafts for troops. In a short time he resigned this work and became associated with the late Dr. C. M. Stockwell, of Port Huron, and carried on his practice while the latter was in the army. Here again the call of duty seemed imperative, and, his health having been restored, he became surgeon to what was to have been the 30th Michigan volunteer infantry with its rendezvous at Pontiac. But the plans of the military authorities were changed and this regiment was not sent out in its entirety; parts of it were assigned to different regiments already in the field whose ranks had become depleted. The offer of surgeon to the 4th Michigan cavalry was then made, but because the end of the war seemed at hand it was declined; and now being in Pontiac and judging it a favorable place for the practice of his profession he settled down and began his life's work in November, 1865. Here in his chosen field of labor he toiled diligently for more than thirty-seven years, allowing himself very limited periods for rest and recreation, until at length he became the leader in his profession in this section. He was constantly called to afford aid and comfort in difficult cases in the practice of his colleagues, in addition to being the beloved physician in a multitude of homes.

Aside from his professional work, Dr. Galbraith occasionally took upon himself public official duties. As president of the Oakland County Agricultural Society he successfully directed their affairs for the years 1883-4-5. He, a republican, was chosen mayor of Pontiac for three successive times at a time when democratic majorities were usually large, and with credit directed our civic course during the agitation of

*Read before the Pontiac Medical Society by Wm. McCarroll, M. D., July 21, 1903.

the question of a public water supply and the installation of our present system. Largely because of his efforts Pontiac was led to early put herself in the line of those municipalities which demanded a wholesome supply of water for general and domestic use. He gave freely of his time when the work of construction was in progress, and in the selecting of the first water board, in guiding their deliberations, in managing contractors, in harmonizing distracting elements among the various workers, in general oversight of the work to prevent anything of wrong to the city, he showed rare judgment and tact. In the fall of 1888 he was elected state senator in this, the fourteenth district and took his seat in the following January. During the session he diligently kept at his post and carefully looked after the affairs of his constituents, though at times his restless energy found the routine work rather dull and hard to endure, and he seemed quite anxious to resume his medical duties at the end of the half year.

For many years he held membership in the American Medical Association, the Michigan State Medical Society and the Northeastern District Society as well as in our own Society. He was also an honorary member of the Detroit Academy of Medicine. Last year when the Oakland County Medical Society was organized he was honored by being chosen president which office he held at the time of his death. While attendance at the meetings of these various societies was not very frequent his associates always gladly listened to him and expressions of regret were heard because he could not often be present to speak those words of wisdom which showed him a master in the art of healing.

He was also a member of the Loyal Legion, that association of commissioned officers of the United States Army and Navy which was formed at the close of the civil war, of the Grand Army of the Republic and of the Masonic fraternity.

Few men possess that extraordinary physical vigor with which Dr. Galbraith was endowed. Year after year he went on with his work untiringly. There was no road so long, no night so dark, no storm so fierce that he did not quickly respond to the unceasing calls that were made upon him. He was always ready to deal with the emergencies of a general practice, always ready to confer with his professional brothers and assist them by either word or deed, always full of enthusiasm in his work whether it was in the lowly homes of the poor or in the stately mansions of the rich. But at length the constant strain began to tell upon his magnificent vitality,

and occasional severe attacks of sickness weakened to some degree his powers of resistance. Once he suffered from septicemia, twice from diphtheria, several times from protracted attacks of the grip. At length after a period of prolonged anxiety and watching due to sickness in his own household, he found himself in October of 1895 to be afflicted with diabetes. The realization of the fact that he was in the bonds of an incurable disease, one that in the course of time would sap his strength, limit his activity and impair his usefulness, fairly stunned him. But soon his wonted cheerfulness came back, he took up work again eagerly. He rarely referred to his affliction and was unwilling that his clientage should know aught of his trouble. The disease made rather slow progress, there was gradual loss of flesh and strength, occasional gastric crises attended by violent pain, nausea and vomiting, severe lumbar pains especially after very long rides, a growing palor, indicative of a faulty haematogenesis, but nothing to indicate the nearness of the end. On the day before his death in addition to the ordinary routine of work he attended a formal consultation in the township of Waterford upon a patient suffering from puerperal sepsis and in the evening ministered to an old lady who had just fallen and sustained an intercapsular fracture at the neck of the femur. Some time after retiring he was aroused from his sleep by severe pain in his chest over the heart, the beginning of an attack of angina pectoris which finally stilled that great heart of his in death, and he passed to his reward on February 21, 1903.

Then on every side were heard expressions of grief and sorrow and nearly every one who knew him felt a personal loss. From all classes came words showing how deep was the sense of bereavement which all felt. Indeed it seemed as if his death was a public calamity to our community, for while he had about reached that period of life which naturally brings a degree of cessation from arduous work he yet possessed to the fullest extent his intellectual attainments which he would have used so generously for the benefit of all.

Dr. Galbraith was the ideal family physician and was able to resist more fully than he himself was aware the growing tendency of our time to divide and subdivide medical work among the different specialists. This was due partly to his intense personality which caused people almost instinctively to believe in him and to feel that they were secure in trusting him, and partly to his great versatility which enabled him

to do so many difficult things exceedingly well. His was a master's hand in many branches of our art. There was none more gentle and skillful than he in the lying-in room, none more alert in detecting and locating disease in the little folk who can not yet express in words their sufferings and complaints, none more resourceful in managing the fretting and complaining of children or the unreasonableness and fault finding of tediously convalescing adults, none more firm and self-reliant in dealing with the exigencies which arise in caring for the acutely sick, none more competent to furnish surgical aid when needed to repair injuries or overcome the ravages of disease, none more capable of compelling people by sheer force of will power to get well when suffering from neurasthenia, hysteria or allied disorders, none more tactful and soothing in ministering to the hopelessly sick; for he had "The pitying heart that felt for human woe, The dauntless heart that feared no human pride."

Notwithstanding his ability to do so many things well he was never satisfied with his attainments, he was always ready to take up with new ideas and improvements as they were brought forward and he kept in touch with all the great advances being continually made in medicine. He was familiar with the latest results of laboratory research, and while he did not have time to do much of that work he was anxious to make use of the knowledge which is obtained from the use of the microscope, culture media and test tubes.

Perhaps it was in his surgical work that he attained most eminence. In addition to a natural aptitude for it his years of training on the battle field, in army camps and hospitals, made him at an early age ready and able to perform almost any operation likely to come before the civilian surgeon. As is known to most of you he did many of the major operations, ranging from laparotomy to trephining. In his surgery he was conscientious, painstaking and thorough. He did not operate for the mere sake of operating. He looked as carefully for contra—as for indications for an operation. He did not make a show of manual dexterity, but worked carefully and with deliberation. Nor did he shirk from difficult tasks when they were clearly necessary nor put them off for a more convenient season. He was ready to do his share or even more of the work and he did it courageously and well.

It always seemed to me that it was in the field of diagnosis that he excelled. That knowledge which comes to most of us by repeated observations and comparisons, by deliberating and rea-

soning, came to him apparently by intuition. It is true that in doubtful and obscure cases he examined with the utmost care and made use of all the modern diagnostic resources before passing judgment; yet it appeared as if all this were but to confirm an opinion already formed at the first glance or the first touch. His eye at once read those signs of abdominal disease which are written on the face, his ear instantly differentiated cardiac murmurs and adventitious pulmonary sounds and his sentient finger tips were marvelously quick in detecting obscure fluctuation. To trace things back to their first causes, and to know their beginning was a delight to him and what to many was a maze of tangled mysteries was to him a plain path.

Of his virtues and excellencies which were not strictly professional something should be said. He always did what he believed was the right, nothing could entice him from what he considered to be the path of duty. Money and fame were always secondary considerations. He was one of the not overly numerous men in our profession who could say with Pope:

"Unblemished let me live or die unknown,
O grant an honest fame, or grant me none."

His face reflected the image of the deep thinker, he was a diligent student and careful investigator; as Shakespeare phrases it:

"He was a scholar and a ripe and good one,
Exceeding wise, fair spoken and persuading."

His eyes were very expressive and compelling. As Senn said of Fenger's: "When he was in good humor they could shine like the spring sun, but when his passions and feelings were aroused they became darts that would bring into submission his most formidable enemies."

At times he was intolerant of opposition; but did not long harbor resentment. He was modest in his bearing and his manners were simple, his courtesy was high minded, he was steadfast and true in his friendships, he had reverence for authority, and he was a continual source of inspiration to all those who came under his influence.

"The soft memory of his virtues yet
Lingers like twilight hues when the bright sun
is set."

He is dead, but his spirit and example yet remain to cheer on those who knew him best. He is now at rest from his labors, and we must say farewell; farewell to his earthly body and farewell to his great soul.

"And hast thou crossed that unknown river,
Life's dreary bound?
Like thee when shall we find another
The world around?"

DR. GEO. H. GREENE, MARSHALL.

1841-1903.

On July 30th, Dr. George H. Greene, of Marshall, a member of the Michigan State Medical Society through Branch No. 1, Calhoun County, died after a lingering illness.

Dr. Greene, while attending the funeral of ex-Mayor John Powell, of Marshall, contracted a cold from which a few days later pneumonia developed. Later on other complications, including marked ascites, presented themselves, which finally proved fatal.

Dr. George H. Greene was the son of Mr. and Mrs. Jacob S. Greene and was born in Tompkins County, N. Y., on June 20, 1841. He graduated from the public schools of Ithaca, N. Y., and in 1863 entered the University of Michigan, receiving his degree in 1865.

For six months he practiced medicine in Geneva, N. Y., then returned to Burlington, Mich., where he practiced until 1882. He then removed to Homer and after three months came to Marshall where he has since resided. In 1885 he purchased the Schuyler drug stock and has since that time managed that business in connection with his medical practice.

On Nov. 4, 1874, he married Miss Emma E. Spaulding, daughter of Truman and Almeda Spaulding of Albion township, who, together with their three sons, Dr. George S. Greene of Berrien Springs and Dr. Grover Greene and Dr. Wade Greene of Marshall, survive him.

Dr. Greene was a member of the Presbyterian Church, a prominent democrat, had been President of the Village of Burlington and Mayor of the City of Marshall.

DR. DONALD MACLEAN, DETROIT.

1839-1903.

A SKETCH OF HIS LIFE'S WORK AND SOME OF HIS PERSONAL CHARACTERISTICS.

BY ALEXANDER MACKENZIE CAMPBELL, M. D., GRAND RAPIDS.

The sudden passing of Dr. Donald Maclean produced a shock in the medical profession of this state which might be likened to that which obtains when a giant oak falls in a forest. Those who knew him well might say that he was not altogether unlike the sturdy oak standing erect, and alone, a tower of strength, meeting with dignity the various waves of opposition and criticism which only strengthened and the more accurately defined his irreproachable position upon the vital questions of his time. It is not the intention of

the writer to pronounce any eulogy upon this doctor of the Old School, but to narrate in a modest way something of his life's work, and some of his personal characteristics.

Donald Maclean, M. D., L. L. D., L. R. C. & S., Edinburgh, F. R. C. P. & S., Kingston, was born on December 4th, 1839, in the town of Seymour, Ont. His father, Charles Maclean, was the son of an Edinburgh lawyer, and at the age of twelve accidentally lost his eyesight. His mother, Jessie Jane Campbell, was the daughter of Captain Colin Campbell, of Argyllshire. At the age of six Donald was taken to Edinburgh, where he attended the famous Oliphants' school for boys for six years. At the age of twelve he returned to Canada and attended the schools at Coburg and Belleville, and four years later entered the literary department of Queen's University, at Kingston. After completing a course in the University in order to earn money to prepare himself for his life's work, he taught school in country districts. In 1858 he returned to Edinburgh, and entered the medical department of Edinburgh University. While in that city he resided at 21 Albany Street, in the old homestead which had been occupied by the Macleans for over two hundred years. His student days were spent in very close study, and in especial attention to Anatomy and Pathology, which doubtless laid the foundation for his success as a surgeon. His devotion to his work is illustrated by the fact that for a long time in his room under his bed he kept a cadaver, which he dissected during the long winter nights after other students had gone to sleep. After four long years of hard work, he received the title of M. D., and as a recognition of his ability, he was appointed one of the house surgeons in the famous Royal Infirmary, and later became an assistant to Prof. Syme, the distinguished Scotch surgeon. In 1862, he returned to Canada, and in January of the next year came to the United States, receiving a commission in the army. He served as surgeon in the general hospitals in St. Louis, Mo., Harrisburg, Pa., Louisville, Ky., and New Albany, Ind. In the latter part of '64 he returned to Kingston where he was made professor of surgery in the Queen's University. During these years, while yet a beardless youth, he acquired a large practice and gained an enviable reputation as a teacher and writer. In 1866, by request of Prof. Syme, he published an American edition of Syme's surgical work which was well received by the profession in this country. In 1872 he was appointed professor of surgery in the University of Michigan, where he has often stated

to the writer he spent the best years of his professional life. His career and record, and what he did to advance the medical department of the University of Michigan, are known to the profession of this state. In 1889, because of an irreconcilable difference with the faculty, he resigned his professorship in Ann Arbor and removed to the City of Detroit, where he built up a large consulting and surgical practice.

In 1893, Queen's University of Kingston conferred upon him the degree of L. L. D., which honor has been given to but twelve men within fifty years. He was Surgeon in Chief of the Michigan Central and Grand Trunk railroads for over twenty years. In 1894 he was appointed President of the American Medical Association at a meeting in San Francisco. He was President of the Michigan State Medical Society in 1884, and of the Detroit Medical Association in 1887, and was an honorary member of the medical societies of New York and Ohio and of the British Medical Association. During the Spanish-American war, he received a commission as brigade surgeon, and was stationed at Fortress Monroe, Va.

Dr. Maclean was a clear and forcible writer, and his pen was ever ready to express his opinions upon current medical subjects. In all his writings he was the strongest advocate of higher medical education, and the bitterest opponent of commercialism and quackery, the rapid advance of which was one of the sorrows of his professional life.

Dr. Maclean has been such a prominent figure in the professional arena of Michigan that his characteristics as a public man are well known, but he had many other qualities which were only known to those whose privilege it was to have his intimate acquaintance. In the first place, he was an idealist of the highest type, and many of his bitterest differences with men were not because he hated such men, but because they did not come up to his ideals of what they should be. His idealism permeated all his views of life and caused him many a sad and disappointed hour. He was one of the most sensitive men I have ever met, a strange composition with all the sweetness and tenderness of a child, and all the strength and bitterness of a giant. He was one of the few successful doctors who was well informed on subjects not relative to his profession, an omnivorous reader who could quote by the hour from the works of Shakespeare, Burns, Tennyson and many other poets whose works he loved, and the reading of which was one of his favorite pastimes after a hard professional day. He was a lover of nature, was always growing some little

plant or flower, and took the keenest interest in its development which he would watch from day to day. He was passionately fond of animals, and just a short time before his death he purchased two small squirrels which he domesticated and tamed with all the interest and enthusiasm of a small boy. Nothing that possessed life was too small for his consideration, and nothing seemed too large for his comprehension. He possessed in a singular manner the elements for a successful doctor. In the first place, nature favored him with a strong physical frame, capable of enduring many hardships incident to the profession. He had an unusual intellect, wonderful tact and strong personal magnetism.

Dr. Maclean had many faults and weaknesses. The composite elements of a genius nearly always strike a balance of compensation, and he was no exception to this rule. But when the book of life is closed we forget the dark and gloomy pages and think only of the rest. On the wall of the vestibule of St. Margaret's Church in London, the writer once noticed a golden tablet which was erected to the memory of Sir Walter Raleigh, and it contains a very beautiful sentiment which reads as follows: "Reader, in considering his faults, remember that he had many virtues, and that he was but a mortal."

Communications.

RECIPROCITY WITH MARYLAND.

Hagerstown, Md., July 30th, 1903.

Dr. B. D. Harison, Secretary Michigan State Board of Registration in Medicine, Sault Ste. Marie, Mich.

My Dear Doctor.—Replying to your communication of the 11th inst. relative to the adoption of Reciprocal Relations by the Michigan and Maryland Examining and Licensing Boards, you are hereby informed that in accordance with Section 43 of Article 43, Codes of Public General Laws of Maryland entitled "Health," the Maryland Examining and Licensing Board will license without examination applicants who present proper certificates of proficiency and professional standing issued by the Board of Medical Examiners of other states, provided such boards of other states grant the same privileges to licentiates of the Examining Board of Maryland. We will therefore henceforth recognize the Michigan licentiate as above provided.

Yours very truly,

J. MCP. SCOTT, Secretary.

SECTION 43 OF ARTICLE 43.

"The respective boards are authorized to license, without examination, applicants who present proper certificates of proficiency and professional standing at the time of application, issued by boards of medical examiners of the District of Columbia and of other states, the requirements of which are of as high a standard as those governing the boards of medical examiners of this state or district; provided such boards of such states or districts grant the same privileges to licentiates of the examining boards of Maryland, such applicants, however, being still required to furnish the same proof of qualifications required of other applicants by this section."

HEALTH IN MICHIGAN DURING JULY, 1903.

Reports to the State Board of Health, by representative physicians in active general practice, in different parts of the State, show the diseases which caused the most sickness in Michigan, during the month of July (five weeks ending August 1), 1903, as follows:

Number of reports received for this month, 400.	Per cent of reports stating presence of disease.		
	July, 1903	June, 1903	Average for July, 10 years, 1893-1902
Diseases arranged in order of greatest prevalence in this month.			
Rheumatism.....	54	62	59
Neuralgia.....	42	42	50
Diarrhoea.....	42	25	52
Tonsillitis.....	41	41	34
Bronchitis.....	36	39	35
Consumption, pulmonary.....	21	21	28
Inflammation of Kidney.....	18	15	17
Influenza.....	15	24	18
Cholera Morbus.....	13	5	23
Intermittent Fever.....	13	10	21
Measles.....	12	15	11
Typhoid Fever } Enteric.....	11	8	9
{ Typho-malarial.....	.8	2	3
Pleuritis.....	11	10	11
Scarlet Fever.....	10	14	8
Whooping Cough.....	8	6	8
Dysentery.....	8	.9	17
Remittent Fever.....	8	9	16
Inflammation of Bowels.....	8	8	12
Cholera Infantum.....	7	2	16
Smallpox.....	7	8	2
Pneumonia.....	7	11	6
Erysipelas.....	6	6	11
Diphtheria.....	5	6	3
Inflammation of Brain.....	3	2	2
Puerperal Fever.....	2	2	2
Meningitis.....	.3	1	1
Membranous Croup.....	0	.6	.6

At the State Capitol for the month of July, 1903, compared with the preceding month, the tri-daily observations made by the State Board of Health show the prevailing direction of the wind to have been northwest, instead of northeast, the velocity .7 of a mile per hour greater, the average temperature 8.35 degrees higher, the average daily range

of temperature 2.21 degrees greater, the average daily range of atmospheric pressure .005 of an inch greater, the rainfall .63 of an inch more, the absolute humidity more, the relative humidity the same, the day and night ozone less, and the depth of water in the observation well 2 inches less.

For the month of July, 1903, compared with the preceding month, diarrhoea, cholera morbus, intermittent fever, whooping cough, dysentery, cholera infantum and inflammation of brain were more prevalent; and influenza, measles, scarlet fever, pneumonia and meningitis were less prevalent.

At the State Capitol for the month of July, 1903, compared with the average for July in the 10 years, 1893-1902, the prevailing direction of the wind was northwest, instead of southwest, the velocity .2 of a mile per hour greater, the average temperature 1.4 degrees lower, the average daily range of temperature .51 of a degree less, the average daily range of atmospheric pressure .003 of an inch greater, the rainfall .66 of an inch more, the absolute and relative humidity and the day and night ozone all more, and the depth of water in the observation well 13 inches more.

For the month of July, 1903, compared with the average for July in the 10 years, 1893-1902, tonsillitis, scarlet fever, smallpox, diphtheria and inflammation of brain were more than usually prevalent; and neuralgia, diarrhoea, consumption, influenza, cholera morbus, intermittent fever, dysentery, remittent fever, inflammation of bowels, cholera infantum, erysipelas and meningitis were less than usually prevalent. Diarrhoea, dysentery, cholera infantum and cholera morbus are usually most prevalent during July, August, September and October, but these diseases were from twenty to fifty-seven per cent. less prevalent than usual in the July just passed.

THE MOST DANGEROUS COMMUNICABLE DISEASES.

Including reports by regular observers and others, meningitis was reported present in Michigan during the month of July, 1903, at 5 places; whooping cough at 40 places; diphtheria at 55 places; typhoid fever at 79 places; smallpox at 81 places; measles at 85 places; scarlet fever at 96 places, and consumption at 216 places.

Reports from all sources show meningitis reported present at 2 places more; whooping cough at 3 places less; diphtheria at 13 places less; typhoid fever at 14 places more; smallpox at 26 places less; measles at 28 places less; scarlet fever at 13 places less, and consumption at 8 places more, in the month of July, 1903, than in the preceding month.

HENRY B. BAKER, Secretary.
Lansing, Michigan, August 7, 1903.

DEPARTMENT OF HEALTH

CITY OF PORT HURON, MICH.

REPORT OF VITAL STATISTICS

For the Month of July, 1903

ESTIMATED POPULATION OF CITY 23,000

MARRIAGES—Total for Month, 32

COLOR		COUNTRY	NATIVITY		Residence at Time of Marriage	
White	Colored		Of Groom	Of Bride	Of Groom	Of Bride
32	..	United States.....	23	26	32	32
		Canada.....	8	4	..	..
		England.....	..	..	..	..
		Scotland.....	..	..	..	..
		Ireland.....	..	..	..	..
		Germany.....	1	2	..	..
		Other countries.....	..	..	..	..

BIRTHS—Total for Month, 24

COLOR		COUNTRY	NATIVITY		SEX OF CHILD	
White	Colored		Of Father	Of Mother	Male	Female
24	..	United States.....	12	14	12	12
		Canada.....	9	8	..	..
		England.....	..	..	..	..
		Scotland.....	..	..	..	..
		Ireland.....	..	..	..	..
		Germany.....	2	1	..	..
		Other countries.....	..	..	..	..

First Ward.....1	Second Ward.....0	Third Ward.....2	Fourth Ward.....0	Fifth Ward.....5
Sixth Ward.....3	Seventh Ward.....2	Eighth Ward.....6	Ninth Ward.....4	Tenth Ward.....1

For want of a State Law for the immediate Registration of Births, we fail to get a report of a large number.

DEATHS—Total for Month, 20

COLOR		SEX		A G E S						
White	Colored	Male	Female	Under 1	1 to 5	5 to 20	20 to 50	50 to 70	70 to 80	Over 80
20	0	7	13	6	1	2	4	2	2	3

First Ward.....1	Second Ward.....0	Third Ward.....6	Fourth Ward.....2	Fifth Ward.....2
Sixth Ward.....1	Seventh Ward.....1	Eighth Ward.....1	Ninth Ward.....4	Tenth Ward.....2

NATIVITY OF DECEASED

United States, 13...Canada, 4...England, 1...Ireland, 0...Scotland, 2...Germany, 0...Other countries, 0

*Still Births are included in totals of Births and Deaths.

CAUSES OF DEATH

Paralysis.....3	Valvular Disease of Heart.....3	Tetanus (shot finger)....1
Convulsions.....1	Cholera Infantum.....1	Drowned (accidental).....1
Pulmonary Phthisis.....1	Bright's Disease.....1	Still Birth.....4
Tubercular Peritonitis.....1	Cancer of Uterus.....1	Old Age.....2

CONTAGIOUS DISEASES REPORTED DURING MONTH

Typhoid Fever.....0	Diphtheria.....0	Whooping Cough.....0
Consumption.....2	Scarlet Fever.....0	Chickenpox.....0
Measles.....0	Smallpox.....0	

CONTAGIOUS DISEASES REMAINING ON HAND AT END OF MONTH

Typhoid Fever.....0	Scarlet Fever.....0	Smallpox.....0
Consumption.....3	Measles.....0	Chickenpox.....0
Diphtheria.....0		

A. H. COTE, M. D., Health Officer.

Book Notices.

HISTORY OF MEDICINE WITH THE CODE OF MEDICAL ETHICS. By Nathan Smith Davis, A.M., M.D., LL.D., Cleveland Press, Chicago, Ill. Cloth, pp. 209.

That the distinguished author of this book should have consented to its publication, without either table of contents or index, seems quite incredible. The explanation is due probably to the fact that the several chapters were given as lectures to his medical students for several years, to which an index was not needed. Probably with little change the lectures were given to the printer, who thought only of issuing the book, with the least mental activity. However, in the broad margins, and fine paper with its clear type we have compensation.

The defects and excellencies of the book spring from its mode of preparation, viz., that of the lecture. 'Tis rare that one writes as he speaks, or speaks as he writes. Hence when the spoken is taken in cold type it is out of place, unless remoulded for its new audience.

A history of more than three thousand years of written medicine, condensed within two hundred pages, must either be incomplete or a catalogue of the simple facts.

It is enough to say that this book contains that which its author regarded as of interest and profit to his undergraduate students. Certainly these classes had better instruction than the average—as generally medical history has little place in the training of medical students.

However incomplete and adapted to the undergraduate, no physician will fail of interest in the careful reading of this book. Its facts are in the main reliable, its judgments of men sound, its estimate of medical and surgical discoveries and inventions just, and its spirit that of a life-long enthusiast of medicine. Medical teaching and its development; medical societies and their evolution; medical ethics and their formal expression, are all ably expounded by a distinguished leader in their changes during the past sixty years.

THE NOSE AND THROAT IN MEDICAL HISTORY. By Jonathan Wright, M.D. Cloth, pp. 248. Price, \$2.00.

To the genuine medical student this is a most fascinating medical book. No medical practitioner can intelligently read it without acquiring a larger respect for his calling and a clearer view of the origin of such exact knowledge as he finds practically useful. The story begins more than three thousand years ago continues, century by cen-

tury, epoch by epoch, nation by nation, race by race, ever seeking to ascertain what each contributed to our present knowledge of the nose and throat. It is apparent that general medicine and surgery grew with special, and that both were essential to present development. Evidently neither has exhausted its field, and so for the careful student there remains "worlds of knowledge waiting for a discoverer."

It is a long route from the incantations of priestly doctors, from the medicine of ancient India, Greece, Egypt, Persia, Rome, Italy, Germany, Holland, France, Spain, Great Britain, to modern medicine, but every step of the way is marked by contests and victories for the mastery of the nose and throat, their structure, functions, diseases and best methods for managing the latter. Most touching is the patient, self sacrificing labors of tens of thousands of workers who each contributed to our present heritage, labors done without hope of such reward as is now too generally regarded as the measure of professional success.

Not the least of these self-sacrificing students is Dr. Wright, the author. His only compensation must come from the consciousness of rendering inestimable service to such as by a study of his work come into truer conceptions of professional knowledge, duty, and fellowship. It is a great opportunity to secure an introduction to the sages of thirty centuries and by their aid pursue one's daily activities.

VISUAL ECONOMICS WITH RULE FOR THE ESTIMATION OF THE EARNING ABILITY AFTER INJURIES TO THE EYES. By H. Magnus, Med. Dr. of Breslau, Germany; and H. V. Wurdemann, M.D., Milwaukee, Wis. Cloth, pp 144. C. Porth, Milwaukee, Wis., 1902.

The necessity of estimating the exact loss from an injury to human eyes is a not infrequent duty of lawyer, doctor, business or insurance corporation. The obligations of the latter lay this necessity upon the former. The particular case may be settled by friendly conference, or in public court. All grant the desirability of having some definite standard for making just estimations of exact loss by such injuries. The work before us is an effort made to establish such standard by which the interested parties may judge any special case.

'Tis natural that the party responsible for the injury should seek a settlement at a minimum; and that the party injured, or his representatives, should strive for a maximum. It is hoped that this little book may aid all who desire to deal justly on one side or the other.

Many efforts have been made to attain this object, but that here presented, viz., that of Magnus modified by Wurdemann seems the most equitable and easy of application. They are based upon anatomical and mathematical data, but stated in such a manner as to be readily comprehended by the intelligent reader, though familiarity with ophthalmology is essential to a comprehension of fundamental principles.

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Original Articles

SKIASCOPY OF THE HEART.*

A. W. CRANE,
Kalamazoo.

By skiascopy of the heart, I mean a study of the shadow of the heart which is cast upon a fluorescent screen or dry-plate by the X-ray. A good X-ray will give a clear image of the heart, which may be studied in a number of ways, of real value, to the practicing physician.

An X-ray examination of the heart can not be properly performed with a small fluoroscope. An open screen large enough to take in the shadow of the entire chest is almost a necessity. Only in this way can the whole heart be seen in its relations to the thoracic viscera. The examination must be made in a properly darkened room and both hands should be free to make tracings, and to move the patient in various positions. More of the technique I will not touch upon for lack of time. But let no physician pass this part lightly. It is no less difficult to know what you see upon the screen, than to know what you see under the microscope.

The physician who uses the X-ray for

the examination of the heart must observe a large number of healthy hearts in order to appreciate the factors in disease. The area of each auricle and ventricle and of the aorta must be discriminated. Definite images of the cardiac outlines, with various positions of the patient and screen must be held in mind. There is nothing difficult in this. It means simply an amount of practice equivalent to that required to learn auscultation. Yet how many physicians have settled opinions of the value of an X-ray examination of the chest, formed from two or three brief squints through a small fluoroscope.

The X-ray shadow of the heart offers five factors for interpretation. They are its visibility, its position within the chest, its size, its form, and its movements. To the experienced eye variations in the relative visibility of the heart shadow are significant. Increased visibility is observed in cardiac hypertrophy, dilatation, and pericardial effusion; and also in thin chest walls, deep inspirations, and emphysema. In hypertrophy, dilatation and effusion, the size and density of the heart are increased and the shape altered, whereas in deep inspiration, and emphysema the density of the lung structure is decreased without changing the size, shape or density of the heart.

Hypertrophy of one or more chambers of the heart is characterized by an in-

*Read before the Section of General Medicine at annual meeting of the Michigan State Medical Society at Detroit, June 12, 1903, and approved for publication by the Committee on Publication of the Council.

creased energy of contraction and by an increased size which is due to an increased thickness of heart wall, not too bulging. Dilatation of one or more chambers is distinguished by feeble contractions and by an increased size which is due to bulging and not to increase thickness of heart muscle. A bulging enlargement of one or more chambers associated with an increased energy of contraction would indicate hypertrophy existing with dilatation. Pericardial effusion is differentiated from either hypertrophy or dilatation by rounded form, absence of definite contraction areas, and the obliteration of the space between heart and diaphragm. In effusion, also, the faint outlines of the heart within the distended pericardium can usually be observed.

Emphysema is distinguished by the movements of the diaphragm which are restricted in their upper half.

The visibility of the heart is decreased by adjacent pulmonary shadows, by oedema or congestion of the lung by generalized thickening of pleura, by empyaemia or pericardial effusion, and by very thick chest walls or forcible expiration. Also, small, flabby, anaemic hearts in wasting diseases, look thin and faint under the X-rays.

The position of the heart within the chest is subject to displacements which a glance at the screen will show to be to the left, to the right, downward, or in transposition. Displacement to the left occurs from cirrhosis of the left lung, or from empyaemia, effusion, tumor or aneurism in the right side. Displacement to the right occurs from the same cause in reversed position. Displacement downward occurs from hypertrophy or aneurism.

The size of the heart is actually increased in hypertrophy, dilatation and cardiac aneurism and apparently increased by pericardial effusion. The size is decreased by congenital lack of development, senile atrophy, and sometimes in wasting diseases. The X-ray provides the only precise means of measuring and recording the size of the heart.

The same may be affirmed concerning the form of the heart. The X-ray reveals with infallible accuracy the slightest change in outlines. It may be irregular in form due to hypertrophy, dilatation or aneurism of separate auricles or ventricles; or it may be rounded by senile atrophy, general dilatation or pericardial effusion.

A study of the movements of the heart can be made upon the fluorescent screen only, the photographic plate being obviously useless for this purpose. We have for consideration the pulsations of the auricles, the pulsations of the ventricles, and the heart reflex. It is interesting and useful to apply a Bowles stethoscope with the long tubing, to the chest and listen to the heart sounds at the same time that the pulsations are observed by the eye. One gets an extraordinarily vivid realization of what is going on in the heart. To auscult the heart while it pulsates before the eye upon the stereoscopic screen is an ideal of clinical medicine which is now possible. Completeness of diagnostic methods can go no farther. Ten years ago the wildest dreams of clinicians had not conceived this method.

The pulsations of the auricles are increased in amplitude by auricular hypertrophy, and by either tricuspid or mitral stenosis or insufficiency. But in stenosis,

the ventricle is normal or reduced in size, while in insufficiency, the ventricle is always enlarged. Insufficiency of the aortic valve may also lead to auricular hypertrophy, but the marked contrast between the very large left auricle and the moderately enlarged auricle is a differential point.

Auricular pulsations are decreased by old age, general debility, pericardial effusion, ventricular dilatation without hypertrophy, and hemorrhage.

Pulsations of ventricles are increased in amplitude by hypertrophy and by excitement, fevers, low blood pressure and certain drugs such as digitalis and nitroglycerine. They are decreased by senile atrophy, congenital lack of development, and wasting diseases.

All heart movements are concealed by pericardial effusions. (Parenthetically it may be here observed that paracentesis by the aid of the fluorescent screen becomes a safe and accurate operation. The needle clearly visible to the eye can be passed into the pericardial sac, and the reduction of the cardiac volumes can be watched as the fluid is withdrawn.)

The apex beat as located by palpation and inspection often does not correspond with the apex of the heart as located by the X-ray. This is because palpation locates the point at which the heart lies in contact with the chest wall, whereas the X-ray locates always the true apex. Yet nothing is more common than to rely upon the position of the apex beat to determine the presence or absence of an enlargement of the heart.

The heart reflex is a phenomenon discovered by Dr. Abrams, of San Francisco. It is elicited by briskly rubbing the skin

over the heart by a blunt instrument. A healthy heart will be seen to draw together in all its diameters so as to be smaller without any interruption in its pulsations; and then after a few seconds to expand again. Time only can give us the true clinical significance of this remarkable reflex; but it can hardly fail to be of great value in testing the state of the myocardium and the integrity of its nerve supply.

The limitations of the X-ray examination of the heart have doubtless occurred to most of you as I have been reading. It is plainly not a method to supplant the regular methods of diagnosis, but to amplify. It does not trespass upon the province of the stethoscope, which can be carried in the pocket of every doctor; but it does give into our hands a method of unrivaled precision in determining the form, size and position of the heart; and adds to the domain of clinical diagnosis three new provinces; namely, heart visibility, heart movements, and the heart reflex.

A PROCEDURE FOR THE PREVENTING OF INFECTION AFTER CATARACT EXTRACTION.*

WALTER R. PARKER,
Detroit.

Chronic disease of the lachrymal apparatus or the conjunctiva, accompanied with a muco-purulent or purulent discharge, affords a most serious complication for the operation of cataract extraction, and any procedure that will lessen

*Read before the Section on Surgery at the annual meeting of the Michigan State Medical Society at Detroit, June 11, 1903, and approved for publication by the Committee on Publication of the Council.

the risk of infection is worthy our careful consideration.

A slight discharge from the conjunctiva or lachrymal apparatus does not mean certain infection, as is well proven by the many cases reported in which the good results are surprisingly high, even though the conjunctiva or lachrymal apparatus was not entirely free from inflammation or discharge. Infection does occur, however, even in these mild cases, and would be almost certain to take place in those of a more serious nature.

Without reviewing the methods suggested by others, I wish to report a case treated after a procedure recently successfully used by Dr. Ellett, of Memphis, Tenn., as reported in the April number of the *Ophthalmic Record*. In this case the operation was done because of chronic conjunctivitis. While the operation has been suggested by others, I do not think its advantages are fully appreciated.

A poorly nourished woman, aged 56, afflicted with a cataract in each eye, practically blind in the left eye for five years, and vision rapidly failing in the right, presented herself at St. Mary's Clinic for treatment. Examination showed not only a hypermature cataract in the left eye and beginning cataract in the right, but a discharge from the lachrymal sac, which the patient said had existed for many years. Though careful treatment was instituted and kept up for several months, the discharge continued. After hearing from Dr. Ellett of the success of his case, I determined to operate as he suggested.

Under cocaine and adrenalin the conjunctiva was incised all around the cornea as if for enucleation. The conjunctiva was then dissected from the ball by means

of a probe, care being taken to free it well in the upward and downward directions to a distance of about a half an inch. The lens was then extracted in the usual way, the combined operation being done. The cut edges of the conjunctiva were then picked up and drawn respectively upward and downward till they met over the cornea. They were then united by a horizontal row of stitches, so as to completely cover the cornea. Care was taken to secure perfect apposition between the edges of the conjunctival flaps. Iodoform was dusted along the line of union and light dressings applied. After twelve hours the dressings were removed, the discharge pressed out of the lachrymal sac, the conjunctiva irrigated and dressings re-applied. This was repeated every twelve hours for three days. On the third day the sutures were removed and the conjunctival wound re-opened. About one-third of the cornea was exposed, showing the anterior chamber re-established. On the fourth day the whole lower half of the cornea was exposed, the lower segment of the conjunctiva having gone back to its original place. The upper segment, however, still covered about one-eighth of the cornea. On the fifth day the whole cornea was exposed, although the conjunctiva was adherent at site of wound, at upper limbus. At no time did the patient complain of pain, recovery being uncomplicated, and a perfect result obtained.

In the above procedure we have not only a means of preventing infection, but a possible protection from accident in nervous and insane patients.

DISCUSSION.

Flemming Carrow, Ann Arbor: Anything which brings us something new and helpful is certain to receive our attention. While,

of course, we cannot pick out a single case, or two, and draw general deductions from their consideration alone, still, this operation described by Dr. Parker certainly seems to me to offer something better than we have had heretofore. Those of us who are working along this line certainly know the difficulties that have to be contended against when we attempt to perform any operation which means the opening of the eye, in the presence of a chronic and constant purulent discharge from the lachrymal apparatus. Now, the opening of the cornea inviting as it does infection from the purulent discharge from the lachrymal sac is an undertaking which rather staggers all of us, and yet we are obliged to do it in cases of double cataract, in order to attempt to give the patient relief from blindness. If, therefore, we have in this operation a means of protecting the wound, (and it seems we have, so far as cases have been related) then, of course, we welcome the operation; and are exceedingly obliged to Dr. Parker for calling our attention to his method of operating, and he is very much to be congratulated, because I recall, in my own experience, a number of cases, and not very far back in time, where I have lost the eye, not because of faulty technique, but simply because the corneal wound has been infected from a chronic discharge from the lachrymal apparatus.

Otto Scherer, Detroit: I really do not know what to say, except that I feel the paper Dr. Parker read is very valuable, and it certainly was very interesting to me. It brought to my mind this thought: any method of procedure, which tends to give us good results, as this seems to, is valuable, because it may in one case be valuable, while in another case another procedure is advisable. The thought that occurred to me is, that we have another method of combatting deleterious effects of infection with suppuration of the tear sac, by means of excision. But that cannot be used in every case and for that reason, I think his method is a valuable acquisition to our method of treating those cases.

Louis Goux, Detroit: The one thing in this operation which appeals to me particularly, outside of the prophylaxis against infection, is the advantage gained by the transparent conjunctiva which makes possible the immediate inspection of the cornea and other tissues beneath. This advantage is very valuable in watching the progress of the case.

C. H. Baker, Bay City: A paper with a new procedure for combatting difficulties which

arise so often is always valuable. In forming our judgment of the value of any operation we have to compare it, of course, with other procedures which have been in use for obtaining the same results. Now, I can understand very well that there may be cases of dachryocystitis that are not amenable to the method of extirpation of the lachrymal sac before the cataract is extracted. And in such cases as that this procedure is eminently the procedure to be selected, as I can very well believe from the good results that have been obtained in the cases so reported. But the question of extirpation should first be considered for two reasons. First, you secure a more perfect procedure for antisepsis, and prevention of infection. In the next place, you secure not only the prevention of infection, but you also secure the cure of a very nasty and disagreeable eye disease in and of itself. By extirpating the lachrymal sac you do away with suppuration, which is the cause of infection in these cases, and you secure the same results as in the cataract extraction without dachryocystitis.

Walter R. Parker, Detroit: I wish to thank the members of the section for the reception given my paper.

The procedure referred to is not intended as a substitute for the operation of extirpation of the sac in dachryocystitis. It is more applicable in cases of chronic inflammation of the lids, affording, it seems to me, one more recourse in these troublesome cases. In the two cases reported it worked admirably and the results were good.

THE VALUE OF CONSERVATIVE OPERATIONS ON THE UTERUS AND ITS APPENDAGES.*

W. P. MANTON,
Detroit.

Ephraim McDowell's splendid courage of conviction established an open door to abdominal surgery in 1809, but the path to this was beset by many dangers and few sought to tread its uncertain way

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until in 1847, Semmelweiss, an obstetrician, blazed a trail which led to the magnificent discoveries of Pasteur, Tyndall, and Lister, and developed a system by which comparatively safe entrance through the sacred peritoneal membrane was obtained. No wonder that when the barriers, which for generations had held the surgeon in check, were at last thrown down, radicalism became rampant, and not only the diseased uterus and its adnexa were ablated, but also healthy structures sacrificed on the slightest provocation. These uncompromising measures, while vastly destructive, were typical of newly gained power, and were of great usefulness, teaching important lessons; through them a knowledge of structure, the tolerance of organs to manipulation, and the pathology of disease were acquired and an improved technique developed. But after all was done and the lessons learned, the results left the surgeon still unsatisfied with the inadequacy of his work.

Many women still suffered after operations, although in other ways, often as severely as from the original malady. Radicalism had done its best, and with the limit reached, it was quite natural that the most prominent operators from their accumulated experience should hesitate and turn conservative. As early as 1840, Amussat had performed myomectomy, not, however, with the idea of conserving the uterus, but as an expedient. He was later followed by Washington Atlee and many others, who proved the possibilities of conservative work. It was not until the early seventies, however, that operations for the removal of disease with re-

construction of the affected organs began to be practiced.

Schroeder was the first to urge the advantages of this method of procedure, in pathological conditions of the ovaries and he was ably seconded by A. Martin, who extended the range of operation to fibroid tumors of the uterus. In this country Polk, Palmer Dudley, Burrage and many others have added largely to our knowledge of the subject and perfected technique.

In our consideration of the conservative operations on the uterus and its adnexa, it must not be forgotten that in a very large proportion of the patients who consult the specialist for surgical affections of the local organs, from the symptoms of which relief is sought, the conditions have already existed for so long a period, and have given rise to such extensive changes in the tissues involved, as to preclude the possibility of conservative treatment. There remains, however, a goodly percentage of cases in which the disease is limited, and in which the removal of the pathological process is possible without the destruction of the entire organ.

My own work in this line began more than ten years ago, but unfortunately the records of most of the early cases were not preserved, so that I am only able to furnish data of cases operated on during the past six years, and even this list is not entirely complete.

From 1898 to the present time, a period of about five years, I have records of sixty-two conservative operations on the uterus and its appendages in fifty-three patients. Of this number thirty-seven were married and sixteen were single. Classifying the operations there were:

Myomectomies	10*
Resection of right ovary.....	12
Resection of left ovary.....	8
Resection of both ovaries.....	6
Puncture of right ovary with destruction of cysts.....	2
Puncture of left ovary with destruction of cysts.....	6
Puncture of both ovaries with destruction of cysts.....	6
Resection of right tube.....	4
Resection of left tube.....	4
Resection of right tube and ovary....	2
Resection of both tubes and ovaries...	2

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Of the fifty-three patients, fifty were relieved symptomatically, and as far as known have remained well. In one case, a married woman, the resected right ovary subsequently underwent degeneration developing a cyst as large as a mandarin orange and necessitating a second operation. In two other women, both married, the symptoms were only partially relieved. In both cases the reconstructed ovaries have undergone changes which demand their removal. As far as known, three of the married women have become pregnant (5.6 per cent.). One miscarried at the third month, one was successfully delivered at term of a living child, while the other is now at the end of gestation.**

Of the cases reported, there have been 94.3 per cent. of symptomatic cures; 5.6 per cent. of failures; 5.6 per cent. of pregnancies; and no deaths.

*See author's article: "Active Conservatism in the Surgical Treatment of Uterine Fibroids," *Medical Age*, February 25, 1899.

**This patient has since been delivered by high forceps of a living female child weighing eight pounds. The percentage of pregnancies in my list is much less than that obtained by Palmer Dudley, who found in a large series of cases furnished by different operators that nearly ten per cent. of conservative operations were followed by conception.

Compared with radical procedures, in which the mortality according to Hector Treub's latest statistics is from five to six per cent. in the hands of the best operators, the mortality from conservative operations, at the very highest but two per cent., is certainly in favor of the latter. The percentage of somatic cure in either procedure is more difficult to estimate, but from the literature of the two methods one is readily convinced that conservatism offers the better prospects for the patient's future. But symptomatic cure is not all that must be considered in this connection, and the true value of conservative surgery of the pelvic organs cannot be estimated alone from this point of view. In formulating conclusions, we must take note of the more rapid convalescence following reconstructive surgery; the more satisfactory improvement in the general health of the patient; the maintenance of the normal functions of the reproductive organs, and the possibility of future pregnancy which nondestructive surgery alone can offer.

Extirpation of the ovaries, besides imposing sterility, deprives the system of the internal secretion of these organs—a principle absolutely necessary under ordinary conditions to the continuance of somatic well-being, and the absence of which, as Brown Sequard long ago pointed out, is felt by the whole economy. Ablation of the uterus deprives the individual of the hope of maternity, and in this way, as well as reflexly, may lead to both mental and bodily disturbance. To the candid mind there can be no question as to the value of conservatism as against radicalism.

DISCUSSION.

Reuben Peterson, Ann Arbor: I think this too valuable a paper to go by without discus-

sion, and also too interesting a subject. It is a subject that every operating surgeon and gynecologist must consider. I must confess that I have not settled the question as definitely as Dr. Manton has. I have too many of these patients returning after resection of the ovaries and demanding a second operation. Now, it may be that I do not select my cases as well as the doctor does, and, again, possibly my technique is not as good. I have done a good deal of this conservative surgery. I have resected the ovaries; I have resected the uterus, and I have taken out what seemed to be diseased portions, and I must confess I do it less frequently now than formerly for two reasons: One reason I stated—that these cases have come back from time to time and are not cured. Secondly, because when I sent the removed tissue to the pathologist he returned it with the report that it was practically within the normal limits. Now I have relegated to the past certain conservative operations on the tubes, which I formerly did. I used to take the tubes where the fimbriated extremities were closed and opened them, stitching the mucus to the peritoneal coat, trusting that by this method the tube would be kept open and the woman would become subsequently pregnant. In one or two cases this happened; in more cases I must confess the women suffered from a return of the symptoms, and subsequently I removed the tube and found that it had become glued again to the edge of the pelvis and in some cases the tube had closed entirely. Now all of these experiences in my hands have led me to question the advisability of promiscuous, so-called conservative, operations. Now, of course, while perhaps not strictly scientific, yet still having a bearing upon this question, is the testimony of the patients themselves. You take a woman who has undergone an operation where so-called conservative surgery has been employed, and she goes through a second operation, that woman says to her neighbor, and the neighbor repeats it to the next one, that the operation was not successful. The patients who are within reach of this patient where the operation has failed will come to you and say: "Doctor, I do not want any experiments; I have had three children already, and I want to be cured and must be cured for the sake of my family. I cannot have that tube opened as you have told about and an attempt made to give me another child and, possibly, have my symptoms remain as they are." We must take into consideration the wishes of the patient. Of course, it sterilizes them if we remove the appendages, but

even so, where there is only a certain proportion of these cases which become pregnant afterwards, I know that if I were a woman and if I were suffering as these women do who come to us, I should certainly say: "Give me my health first, by all means." Consequently I am studying my cases. I am doing this conservative surgery all the time, but I am not doing it nearly as promiscuously as I did four or five years ago.

Richard R. Smith, Grand Rapids: I have been doing this conservative work for four or five years, perhaps longer, and my experience has led me to the adoption of about the following rule: When the question of the ovaries comes up I like to be conservative. As Dr. Peterson has said, a great many ovaries that were formerly considered pathological are not so. They are not in reality the cause of the pain and disturbance from which the patient is suffering, and they can be preserved and the health of the patient obtained. The advantages are that she goes on menstruating; that she preserves the normal functions of her organs. On the other hand, with the tubes my observations have led me to be less and less conservative; that is, if I find a tube that is thickened, that is in any way abnormal even though it may not be anything more than the closing of the fimbriated extremity, I believe in its removal. The tube has but one function as far as we know; it conveys the ovum to the uterus. It has been pretty well shown that where these tubes are preserved but a small percentage of those women become pregnant anyway. On the other hand where secondary operations are performed, the majority of those cases are operated upon because of a following inflammation in the tube, that is, the tube forms the nidus of infection and makes the future trouble. Therefore, while I believe in preserving an ovary, I do not believe in preserving a tube which is thickened or diseased, and I believe in removing it altogether. My results in doing this conservative work have been excellent.

W. P. Manton, Detroit: This is a large subject and it would take a long time to go over all the details of the objections which Dr. Peterson has made. Of course we understand that they have one of the finest pathological laboratories in the country at Ann Arbor, and I can easily understand why they prefer to take out organs rather than to preserve them. As a matter of fact, those who have done the most in this line of work are the men who are the most enthusiastic over it. I did not

mention anything about the operations, because in a section of this kind everybody is supposed to know how these things are done. I can say briefly that the ovary may be cut in any part transversely, it may be split through the center and cysts removed, or portions of the ovary removed as long as a minute portion forming the germ cells is left behind. It is not always necessary to stitch the ovary after operating. The wound may be left open, but usually where there is a large opening I prefer to put in a stitch or two, either of fine silk or catgut.

In the matter of tubal disease, we usually find in chronic cases dilatation, the distal portion,—small pus tubes, etc.—and for an inch and a half or two inches nearest the uterus the tube is usually in practically a normal condition. The reason is that that portion drains off through the uterus. Now if in a case that has not advanced too far the closed fimbriated extremity be opened up and thoroughly washed out with an antiseptic preparation and a new mouth made, the edges stitched or not in the majority of cases—not every case, but in the majority—that mouth of the tube will remain open and the ovum will pass through to the uterus. In case of a pustube the pus is pocketed and you will find within an inch or two of the uterine extremity a diaphragm shutting it off so that it cannot drain and the secretion is consequently increasing and enlarging the tube, and if you will remove a portion, say two-thirds of the tube, and make a new ostium, stitching the mucosa, and then stitching the ovary to the new mouth,—you have preserved the functions of the tube and in the majority of cases, if done carefully, you will have success. I have had a number of cases of that kind where the symptoms have been entirely removed and where the tubes were as large as my wrist. I published a paper some three or four years ago on the conservative treatment of the fibroid uterus in which I advocated myomectomy, rather than total annihilation of the uterus. I have had a number of these cases of uterine fibroids in which I have taken out the nodes and then stitched up the uterus. These patients have made a good recovery, and as far as I have been able to ascertain—and some patients I followed for years—there has been no subsequent return. My own percentage of pregnancies is comparatively small.

In a paper read before the American Medical Association at New Orleans last May Dr. Dudley who had collected a number of hun-

dred—I don't remember just exactly the number, but a good many hundred cases of conservative operations—found that in the sum total 10 per cent. became pregnant. If we can save 10 per cent. of women in this way, it is well worth trying. Out of my 53 cases reported, only three cases, as far as I have been able to ascertain, have had any subsequent trouble. I am sure that I have operated a good many more than a hundred times in this way, and I do not recall more than two or three cases where I have had to do a second operation for this trouble. I think the tendency of gynecologists and abdominal surgeons is to conservative work, and I think the more this thing is looked into the better it will be received, and it is unquestionably the surgery of the future. Total ablation is destructive, and it is often doing the patient more harm than good; while conservative, as the term implies, conserves the well being of the woman and relieves her of all symptoms.

THE REMOVAL OF THE APPENDIX DURING ABDOMINAL SECTION.*

J. H. CARSTENS,
Detroit.

As surgical technics improved and aseptic surgery was perfected, it was found that more than one operation could be easily done when the patient was under an anesthetic. Now even six, seven and eight operations are performed at one time. As the appendix is a useless organ it has been advocated by some to always remove it when the abdomen is open.

This is easily said, as if it was simplicity itself, but the removal of the appendix is quite a difficult and certainly a very delicate operation. If it is bound down by adhesions it is quite a job to dig it out and not injure other structures. The

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removal of the appendix itself is quite delicate. It is so easy to get infection from its contents, and only the greatest care will prevent contamination of surrounding tissues. Quite a little time is occupied in performing this operation, so that all around it is not by any means a one-sided affair. If the appendix is loose and easily removed it can be done, as a rule, without increasing the danger to the patient. But of what use is it to remove it then? The patient will not get appendicitis, as those kind of appendices are not often subject to accumulation in the interior and the resulting inflammation and infection. So that I would not lay down for *my* dictum, "that in every case when the abdomen is open the appendix should be removed."

It may be said that it is a very simple operation and in a flippant manner lay down such a rule, but I would warn against it. By considering it a serious thing to remove even a healthy appendix, *is such care exercised as is essential to success.*

We have a great many cases where there is involvement of the appendix, secondary to tubal or ovarian disease. Yes, there are even many cases where it is difficult to say whether the disease originates in the tube or the appendix. Yes, there are even cases where it is impossible to say that the disease is in the appendix or is in the tube. The temperature, the pulse, the onset, and the whole history of the case would make you diagnosticate one condition, and when you operate, you find the other. In many cases both are involved independently of the other. All we can tell in these complicated cases is that there is some serious trouble requiring operation, and let the operation be to

a certain extent exploratory. If the disease is in the tube, why, remove it. The same with the appendix, but if they are both involved, then I say remove them both.

However, there are another class of cases, simple ovarian tumors or fibroids, or any other kind of tumors or condition requiring celiotomy in which the appendix is not involved. However, in such cases we sometimes find that the appendix is of such an anatomical structure or as the result of previous inflammatory condition there has occurred adhesions and kinking or twisting of the appendix; in short, it is one of those appendices which we know by experience is very liable to become inflamed. In such cases it seems to me, not only right for the operator to remove the useless organ, but that it becomes a duty to remove it and prevent future trouble, which in all probability will occur in the course of time.

But even in these cases there are conditions when it is best not to remove the appendix. If the operation has been a very serious one with extensive adhesions or other complications have arisen; or if the patient is very weak from long continued disease or severe hemorrhage, it is best not to prolong the operation even for ten minutes by removing the appendix. You better let it alone, but warn the patient, if necessary, to have prompt interference if any symptoms of appendicular trouble should arise.

In some cases I have found that there is a fecal concretion in the appendix and we know by experience that fecal concretion often leads to acute inflammation of this organ. During distention of the bowels from constipation or other causes, some fecal matter got in and when the cecum contracted the concretion could not

get out on account of the contraction or valve at the junction of the appendix to the cecum.

Such concretions remain there perfectly quiescent, but are liable to break out at any time. In such cases I have been in the habit of stripping the appendix from its tip upwards to the cecum and forcing the concretion and contents of the appendix into the cecum which takes but a minute, and it seems to me, may prevent trouble in the future. Inversion of the appendix has been advocated instead of removal, and I have made use of it and found it valuable in some cases, but it is not so easily performed as some people think. As a rule, the appendix can be removed quicker, and with a strictured organ it is inverted with great difficulty, in fact often tears and the contents escape and contaminate the surrounding tissues. The appendices with large openings, which can easily be inverted do not require it nor is removal necessary.

From my experience I would say, that barely five per cent. of cases of abdominal section require removal of the appendix. In fact, as far as I have been able to find out, not more than one patient in a thousand that has celiotomy, is afterwards affected with appendicitis. It is certainly very rare in my experience.

To sum up I would say:

First. That the removal of the appendix during abdominal section is not indicated or justified except when the appendix is involved in the inflammatory condition, or the growth for which the operation is performed.

Second. In cases where the anatomical structure of the appendix is such that it is liable to become inflamed; or when it is twisted or kinked by inflammation

and is liable to cause trouble, then it should be removed.

Third. When it contains foreign bodies (of whatever kind) then it is best to remove it or at least strip it and force its contents into the cecum, or in some cases invert it.

Fourth. After difficult prolonged operations or in debilitated patients the normal appendix be better left alone.

DISCUSSION.

L. J. Hirschman, Detroit: This paper I think is a most timely one to the younger men who are working along similar lines and comes as a note of warning from one of our pioneers, and it is one of the best things which could have happened at this time. We find that often some men in doing abdominal surgery are apt to want to increase the number of operations they have done, and frequently want to remove an appendix because it adds another appendectomy to their list. But at this time, coming from the authoritative source that it does, I think this warning is most timely; because very often in cases which require abdominal section, the average man who operates but semi-occasionally takes a long time in performing the operation and then wants to complete the job by removing the appendix, excusing himself by stating that he wants to prevent an attack of appendicitis; and he takes more time and perhaps just enough more time to lessen that patient's chances of recovery by interfering with the appendix. Moreover, a man who successfully removes the appendix while performing the abdominal operation very often in his hurry to finish the work does not properly close the stump, and even though the rest of the operation may be clean, he gets in five or six days a fecal fistula, resulting from what was perhaps a perfectly normal appendix. For all of these reasons I think the doctor is to be commended for giving us this paper at this time. A twisted appendix or one with a short pedicle, with evidence of having had former attacks, I believe should be removed. I would like to have Dr. Carstens tell us whether it would not be wiser to remove every appendix in which concretions are found; because by stripping it back and removing the deposit (while it may remedy the difficulty for a time);

yet if it is in such shape that concretions can form, why not remove it so that it cannot occur in another attack of constipation.

T. S. Burr, Ann Arbor: I think Dr. Carstens' statement that he would not remove the appendix in cases where the patient would not stand the operation well, where there was some particular reason why the operation should be hurried and the abdomen closed, is correct. On the whole, I think these statements in regard to removing the appendix when it is diseased, when it is associated with tubal disease or shows evidence of previous involvement, are all right. But it seems to me that when he states that he would not remove a normal appendix, there is possibly a chance for criticism, because it is often hard to tell whether an appendix is normal or not. In 93 laparotomies performed at the university hospital we have taken out the appendix in every case with the exception of one or two where the operation was severe and the patient could not have stood the shock. In 33 1/3 per cent. of these cases we found evidence of previous appendicular trouble. In four or five there was acute or sub-acute appendicitis present at the time, although the patient gave no symptom of it before the operation. In many cases where the appendix looked to be perfectly normal, the microscope showed undoubted evidence that at some previous time there had been infection. Of course a man who is going to use a great deal of time in doing a pelvic operation might not be justified in taking the additional time to remove an appendix; but if the operator is reasonably skilful and can complete his operation with some celerity, I believe it is pretty good practice to remove it. Dr. Carstens' views on appendicitis are usually just about correct. I have read a number of his articles and admire the stand he has taken, but I don't see why there should be an objection to taking out an appendix which is easily removed, when there are no contraindications, and the abdomen is open for the purposes. The region can be walled with gauze, and the danger reduced to a minimum. The appendectomy should not be done hurriedly or for the purpose of adding one more appendix to our belt, but to remove a source of danger, and I think source of real danger.

W. Bishop, Bay City: Up in our neck of the woods, where I am engaged in a small way in performing surgical operations, I have in a number of instances made a diagnosis of ap-

pendicitis for some men who had not seen many abdomens opened and who were not familiar with the external appearance of an appendix. They most always expect to see it ruptured, and I was afraid that when they saw it they would not be impressed with the importance of the operation. I was afraid they would conceive the idea that it was not appendicitis. After taking the appendix out and slitting it open and subjecting it to a microscopical examination and finding that it was choked with fecal matter, I have always felt absolutely justified in having taken it out, even though I found no other condition.

I was interested in Dr. Carstens' statement that he stripped the appendix and forced the concretions into the caecum. Personally, from the good my patients have derived from removing that kind of an appendix, I would think it would be for the best interests of the patient, if we find fecal matter or fecal concretions in the appendix, to remove it. I do not see the force of the comparison between an appendix and an ovary; because in one instance you have a functioning organ which is quite essential to the peace and welfare of humanity, and on the other hand, if you take out the appendix, it will do good instead of harm.

W. Appelbe, Detroit. I would like to ask Dr. Carstens in regard to these fecal concretions. Being interested in pathology, I have examined some of the substances from these appendices which were supposed to have been fecal concretions, and I have never seen an appendix which contained a fecal concretion, although I have examined quite a number of articles which were brought to me that were derived from such source, such as calcific material resembling very much the same thing that I have gotten from tuberculosis. But I question very much if Dr. Carstens is strictly correct in saying that the caecum distention widens the opening of the appendix. I think I have only seen one experiment made on the caecum, and in that case the more we distended the caecum the closer we contracted the aperture of the appendix. For that reason I am inclined to think some of these concretions are produced by obstruction of the circulation.

In regard to the suggestion that the appendix should be removed because of no use, I think if we were to remove all the organs that are of no use, some of us would be going about minus a good deal of our anatomy.

F. B. Walker, Detroit: I think the word "meddlesome" that some one used is a

pretty good word in this discussion. I think there is a tendency in surgery, as there used to be in medicine, to try to do too much and too many unnecessary things. I cannot see any reason for removing a normal appendix. Some one used the term in comparison with an ovary. There is some difference between an ovary and an appendix, and yet we do not know—at least, we don't know with satisfaction, what the appendix is for. We say it is useless, but that does not settle the matter necessarily. We might just as well apply the same rule, it seems to me, to the gall bladder as to the appendix; I think better, perhaps, than to the ovary. No one would think of removing every gall bladder. We have not got to that point—perhaps we will some time, if we keep on. But I think we are inclined to try to do too much. People know so much about appendicitis now, compared with what they used to, that it is not difficult at all to persuade some people to have the appendix taken out. They will come to the doctor with an attack of indigestion, pure and simple, and they are mightily afraid that they have appendicitis, and if you are a little clever you can talk them into an operation. It seems to me that the only rational view to take is that you take in your own case, or some one dear to you and you will get rid of this feeling or desire to risk something where there is no necessity for it and where you can come down to plain, common sense in the matter.

Reuben Peterson, Ann Arbor: Unfortunately, I was unable to be present when the doctor read his paper. But from what I can judge from the discussion there are a number of points I would like to speak upon in regard to the removal of the appendix in connection with diseases of the genitalia. I judge the operating for appendicitis, where the incision is made for the disease in question, and the removal of the appendix after the abdomen or pelvis has been opened are entirely different affairs. It seems to me that the question before us is still open for discussion. We do not know whether we should remove the appendix or not in cases of pelvic disease requiring a laparotomy. During the last two years I have been trying to study this question practically by the removal of the appendix in every case where the life of the patient was not jeopardized by the prolongation of the operation for about five minutes. It seemed to me that by a removal of the appendix in those cases where we operated upon the pelvic organs for another disease and by a microscopic study of the removed tissue, we might arrive at some con-

clusion. I am not ready to report as yet the results of my studies in this direction, but in this connection I will give a few facts. Dr. Mulheron stated that in a thousand autopsies—I don't think he mentioned whether on women entirely—but in a thousand autopsies only two per cent. showed evidence of appendicitis. Now, such figures are entirely different from my own results. I have removed in the last two years about 120 appendices in connection with diseased genitalia. Ninety-three of these have been subjected to a microscopic examination. I have the notes before me upon the position, size and diseases of the appendix. As I say, ninety-three of them have been subjected to a microscopic examination. The results of those examinations showed that out of the ninety-three cases, forty-eight, or over fifty per cent., showed appendicitis in some form or another, either sub-acute or acute or evidence of late trouble. Now, it seems to me that in the light of these facts we cannot answer this question off hand. We cannot say when we look at the appendix that it is perfectly normal and does not need removal. If we removed appendices that look to be normal, we will find upon a microscopic examination, that most of these appendices show evidence of chronic disease or that they are in a sub-acute stage of inflammation, and that they are liable to give trouble to the women at any time. I submit these figures for your thoughtful consideration. Now, no one wants to remove anything in the pelvis or abdomen or anywhere else, which is not diseased and which does not need removing. That question has been settled long ago. We do not remove ovaries now just for the sake of taking them out and perfecting out technique. Years ago, when we began and knew less than we do now about pelvic and abdominal surgery we removed them because we thought they were diseased, and now we can tell by sight whether they are or not. It may be that the results of future investigations will show that the same is true about the appendix, but the only way we acquire knowledge regarding various pelvic and abdominal phenomena is by the removal and study of these organs. Now, I do not think that anybody will place in the same category the appendix and the ovary. Certainly the appendix is of very little use to us. I know that it has been claimed that there is some use for it, but personally I would far rather have my appendix in a bottle than I would to have it within my own abdomen, and I find that the majority of my patients feel the same way. I have not removed

the appendix in all these cases without ascertaining the wishes of my patients in that regard, because although mine is more or less of a public clinic, still I want to treat those patients, and I try to treat them just the same as my private patients. To show you how patients feel in regard to this matter: The other day a patient stopped me when I was making the rounds of the ward and said: "Doctor, the assistant tells me you did not remove my appendix, and I am very sorry, because I wanted it removed." She pointed to a patient in the next bed and said: "That patient has her appendix out and she can never have appendicitis." That is not particularly scientific, but it shows that as far as the patients' wishes are concerned, the removal of the appendix and the ovaries is in an entirely different category. I have removed what appeared to be a normal appendix and the microscopic examination showed that it was ulcerated and that it might at any time cause the patient trouble, although if I had been judging of the removal solely upon the appearance of the organ, I should have left it in.

In regard to the added shock or the difficulties resulting from the removal of the appendix: In not one of these cases apparently has it caused any trouble. Now I do not say it will never cause trouble because even in our simplest operations we have once in a while bad results, but I think we can class appendectomy, the removal of such an appendix as we are considering, as among the simplest operations. Out of a hundred or two or three hundred cases, you might possibly get once in a while a bad result from the ligature slipping and allowing some of the fecal matter to escape, but where the stump is buried under the serosa this is not very likely to occur. So I will say again, we are by no means able to answer this question yet, and it will take many more cases and the testimony of many operators before we can definitely settle the subject.

J. G. Lynds, Ann Arbor: I would like, in a few words, to say I agree thoroughly with Dr. Carstens' ideas in regard to the removal of the appendix in abdominal operations when it is diseased. When it is healthy, leave it alone. I do not believe that the removal of even a healthy appendix when the abdomen is open is without danger; for I think that some good men who advocated it quite strongly at one time have practically given it up, because they found that their mortality was considerably increased when they

did remove the appendix in those cases. I have very recently seen a case where the removal of an apparently normal appendix was followed by repeated attacks that corresponded in every respect with attacks of appendicitis, e. g. elevation of temperature, together with pain and tenderness over the region where the appendix had been; whereas, previous to its removal the patient had had no trouble. Whether or not this was due to a faulty operation, I would not say. Then I have, in several cases, seen abscesses form which had to be opened up by a second operation. Again, I believe that you have to make a larger incision in the abdomen than you do to attend to the pelvic trouble to get at the appendix, to pull it over into the pelvis without making a pretty long incision; you are liable to tear the attachments and the peritoneum considerably. For my part, I don't see any difference in removing a healthy appendix or an ovary, especially after the menopause or near the menopause. I do not see that an ovary after the menopause has any further function than an appendix, and I do not think it is proven by any means that the appendix is without function. So far as removing a healthy organ, I say you might as well remove a healthy ovary as a healthy appendix. Of course the question as to how many appendices are diseased is an open one, and the fact which Dr. Carstens mentions that one out of a thousand cases of abdominal operations develops appendicitis, is certainly not very strongly in favor of removing the appendix unless found diseased.

M. Willson, Port Huron: In discussing this matter we must bear in mind what we should always bear in mind in discussing medical questions, and that is the factor of human error and the environment. Now we all know that in the examination of pathological specimens the most expert of these examiners come across cases that they are unable to decide for themselves to what category they shall relegate them, as in the case of certain fibromas, or whether a growth is to be classed as sarcoma or carcinoma. So in the examination and the removal of the appendix, it will depend to some extent upon the environment and certain other elements which unconsciously influence the examiner. There are a great many cases in which there is no doubt, and then there are a great many more in which it is impossible for the examiner to determine whether he shall class them as

pathological or not. Here is a fact I say which must be taken into account. Common sense would teach us not to touch a healthy appendix any more than a healthy organ of any other kind. There is what we might call a present appendiphobia; everybody is afraid of his or her appendix, and you can't have common colic but what the idea of the sufferer immediately reverts to his appendix; and as one has remarked, a skilful manipulator of men has no difficulty in multiplying his appendectomies very largely, if he wants to. Of course, the primary consideration with all honorable men is the welfare of their patients; their own records and statistics being secondary.

C. K. La Huis, Kalamazoo: I would like to disagree with the author of the paper in one regard. If I understand Dr. Carstens correctly, he says that even in cases where the patient's life is not imperiled by prolonged anesthesia he strips the appendix and turns the concretions back into the caecum. I do certainly think that where an appendix has at one time contained a concretion that that appendix is by far better out, unless the patient's condition will not allow prolonged anesthesia. I feel very sure that if Dr. Carstens for one reason or another ever opened my abdomen and finds a concretion in the appendix and strips it back into the bowel, leaving the appendix and giving it another chance to cause trouble, I should be displeased when I woke up. I have had a little experience with appendiphobia, and it is not very pleasant to have an appendix in one's anatomy that is not normal. I should certainly feel very much concerned about it afterwards, if I knew that my appendix had contained a concretion and the same had been removed by Dr. Carstens' stripping method.

J. H. Carstens, Detroit: Some years ago I tried to look up the statistics and find out how often you find appendicitis, what proportion of the community have appendicitis. Although the newspapers may write a great deal about it, as they do about Dr. Lorenz, I know there are very few cases of congenital dislocations of the hip, and I know that the proportion of cases of inflammation of the appendix is not near as great as the laity may think, and as some physicians may think. At that time I stated, that from what I could find out, there was not one person in a hundred ever afflicted with appendicitis. In

the city of Detroit, with 300,000 inhabitants, you cannot find a hundred cases, I think, in a year. I think the statement of Dr. Mulheron, in which he gives about two per cent. in Vienna is about the highest you can possibly get, and they probably stretched the point and made it just as high as they could. Anyone that had even the slightest suggestion of having had trouble with the appendix they put in there, and they could only find two per cent. Hence, if you operate on a hundred patients and remove all those appendices, of which only one patient would ever have any appendicitis, I know you will kill at least two or three, and I don't think that is good practice. That is the reason I read this paper and made this kind of a statement. The thing all resolves itself to this: You may rely upon your statistics if you like, but I do a few cases a year of abdominal section, and have been doing so for a good many years, and I may say that in all my experience I have only seen two cases that afterwards were afflicted with appendicitis, and I suppose I have had several thousand cases—I have not figured them all up; I am going to do so some day. It is a very rare thing, and I know that these patients, while there might have been one or two who escaped and went somewhere else, I am quite sure most of them would have returned to me and told me their condition and had me operate on them again. I say it is a very rare thing for a patient to be afflicted with appendicitis after he has had abdominal section. The reason is apparent, because in those cases of abdominal section where the appendix is involved you remove it. Those people are excluded. Suppose those are five per cent.; that covers the whole ground; the rest are not really subject to it. Once in a while one may be subject to it. One of the gentlemen said he had a lot of appendices examined and he found something the matter with all of them. You do sometimes find something; you sometimes have an acute attack of appendicitis and you open the abdomen and operate for it. You may think there is nothing the matter, and you make a careful examination of the contents and you will find that there has been a micro-organism present; you examine that appendix and you find it is diseased. When you take a normal healthy appendix and by manipulation and compression you more or less injure and bruise it, or squeeze it, loosening some epithelium, and a microscopist examines it, he says that it is diseased. If you hadn't touched it, it

would not have been diseased. If I express that concretion I may possibly loosen the epithelium somewhere, but I do not think I do; I have not had any cases where I have produced that, as far as I know, I do not do it very often.

As far as this being fecal or something else does not make much difference to me. I know myself it is fecal; I don't care what any microscopist says, because I know what feces are just as good as he. I know that sometimes fecal matter gets in there, (the liquid part is absorbed), and becomes hard; then another layer is formed and, by and by, a little liquid feces will get in there again and cover it over and another layer is formed; so you have concentric layers, sometimes mucus, sometimes fecal. That fecal matter may be calcareous or contain little grains of sand. Whatever they are they may remain there and become hard. I want to say it don't make any difference whether it is fecal or anything else. How many cases have you had where there is fecal concretion or any other kind of concretion. They talk about it as though the woods were full of it, but they are not. You do not find such a condition in five per cent. of the cases where there is a fecal concretion in the appendix; I doubt whether there is more than one or two per cent. Consequently these fecal concretions do not get into the appendix very often. It is an unusual thing for anything to get in the appendix. Now, if by some combination of circumstances somebody got something in his appendix, which would not happen again once in a hundred times, and I squeezed or pressed it out, his chances to get it again as I say, would not be one in a hundred; so I think I have saved him a good deal of trouble. The point I make is this: that while perhaps in the majority of operations in which you remove the appendix, the patient gets well, still some do not. Some die from simple causes. If you have a patient who is already sick, who has a tumor or an abscess or anything whatever, and you open the abdomen, you have to prolong that operation by removing the appendix and you increase the risk so much, and it may be only one per cent., two per cent., or a half per cent., but you increase the risk by prolonging the anesthesia. Then, again, the danger of the operation itself, of getting

infection from the appendix, also increases the danger, and a certain percentage more will die. It depends a great deal on the technique. Some don't know how to remove the appendix; they never will. They will cut it off, cauterize it, shove it in and let it go, but that is not the ideal way to make an appendectomy. The way to do is to bring muscle to muscle and serosa to serosa. When you do that you don't have a secondary attack of appendicitis, and you don't have any trouble afterwards. So the whole central point of my paper is this: To warn against this easy, flippant kind of manner of taking out the appendix. I want to warn against it. With a normal healthy appendix there is no need of removing it any more than anything else. If it is easily removed, what is the use of removing it. When I get one of those that has a big opening, and things slip in there and out, I know that patient will never have appendicitis, as nothing can collect in there. If I have a long one, 7 or 8 inches long, which I think is likely to give me trouble, I take it out as a general rule.

If the appendix is adherent and has grown tight to some of the other organs and been perhaps affected, I take it out.

If it is normal and healthy, let it alone. What I simply plead for is simplicity. Do not remove the appendix simply because it is an appendix, and because you think you are doing a great thing. There is, once in a while, a case where the patient tells you they want it out. They say, "when you operate on me take out my appendix." That is different. In that case you can do it. If you do it without the patient's consent, for all you know they may sue you for damages. You have no right to remove an appendix any more than an ovary or anything else without the specific consent of the patient. You can remove the appendix if you have their specific instruction to do anything you see fit. But if you were requested to remove an ovarian tumor and then removed the appendix, they might say that it increased the danger, and sue you for damages. So I would warn you against doing it, and I want to make the warning especially to the younger men, that the additional operation of appendectomy is a serious matter in some cases, and they should go a little slow and not be too smart about it.

RECTAL EXAMINATION.*

ITS IMPORTANCE AND VALUE IN GENERAL PRACTICE.

LOUIS J. HIRSCHMAN,
Detroit.

If there is any class of disease to which human flesh is heir, which emphatically calls for local examination, it is that large group of affections, which either directly or indirectly, are concerned with pathological lesions, the seat of which is in the rectum or anus.

A large proportion of the practice of the general medical man is made up of cases, whose departure from health is dependent upon some disturbance in the relation between the ingress of the food and the excretion of waste products.

With the possible exception of the urinary tract, the most important avenue of excretion is the lower bowel and the part in which we are interested principally at this time; its termination, the rectum and anus.

The careful and conscientious practitioner, when a case involving any portion of the respiratory system presents itself at his office for treatment, immediately suggests a physical examination of those organs; likewise symptoms of cardiac trouble call for immediate examination of the heart, the condition of the blood vessels, pulse, etc. When a woman calls at your office complaining of symptoms which are dependent upon some derangement of the female genital organs, a local examination is immediately suggested, for how can we treat any cases of this kind without knowing the exact condition

of the parts; and how can we know the exact condition of any part of the body without a thorough examination?

What has been said of the above diseases might be said with equal emphasis of all diseases of those organs which are accessible to physical examination. Why it is, that patients suffering from diseases arising from disturbance in the proctological area, should be treated by simple giving of drugs and dietary instructions for months by many (in fact, by most) general practitioners of medicine, without even the suggestion of a rectal examination; is beyond my comprehension. Of course the examination of the rectum is not a particularly pleasant duty to perform, and some patients are greatly embarrassed by the request to expose the rectum for proper examination; but to my mind, after considerable experience both in gynaecological and proctological practice, I must confess that the present method of examination of the rectum is in a great many cases to me, a far more agreeable task than many vaginal examinations I have made. To pretend to be able to make a correct diagnosis of rectal diseases without a thorough examination of the parts, is as absurd and unscientific as to make a diagnosis of valvular heart disease without listening to the heart's sounds.

It is very essential in all cases, which present themselves in which, the recital of the symptoms would lead one to suspect any interference with rectal elimination (whether the symptoms are direct or reflex); to make a thorough rectal examination at once. Very often, beginning malignant diseases can be discovered early enough to successfully combat and cure. Small ulcers, hemorrhoids, beginning fistulæ, polypi and other conditions

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may also be discovered early enough to be successfully treated by any general practitioner. Here, more than in any other portion of the body, diseases are more liable to progress rapidly and even when a tardy examination is made, the patient's condition may be hopeless. In a great many reflexes, in which the seat of the pathological process is not apparent, it is surprising in how many cases a rectal examination will serve to clear up the obscurity of diagnosis. Many cases of urinary distress, incontinence, impotence, tenesmus, sciatica, intestinal flatulence, headache, loss of appetite, back-ache and various skin affections may be found due to some pathological condition, the seat of which is found in the limits of the rectum. For the sake of your patient's comfort and your own reputation as a conscientious practitioner, I would make a plea for a more careful, a more thorough, more scientific and a more complete examination of the rectum and anus, than has been the practice of most of us in the past; in order that a great many of the conditions which have been allowed to lag and drag, may be arrested and relieved more promptly!

It is my purpose to outline a satisfactory scheme for the examination of the rectum by any physician. In the first place, it is almost needless to say that a history of the trouble should be inquired into, in detail; and let me say here that the method of questioning the patient is of vital importance to the patient's confidence in his physician. It is always my rule to first allow the patient to tell his story in his own words. If he is a stranger, it puts him more at his ease. After he has done so, then questioning by the physician in regard to his habits,

occupation, environments, family history, etc., should follow.

Symptoms which he has mentioned in the course of his recital and which would justify your request for a rectal examination, may be enumerated as follows:

First. Indigestion, loss of appetite, flatulence, constipation and any irregularity in the action of the bowels.

Second. Intestinal aching, pains throughout the pelvic or sacral regions, or shooting pains down the legs, sense of constriction or weight in the body and pelvis (particularly in males).

Third. Spasmodic or constant dysuria or other genito-urinary disturbance.

Fourth. Undue looseness of the bowels and the changed appearance of the fecal excretion: such as the presence of mucus, pus and blood. In women, in my opinion, no gynecological examination is complete without a rectal examination included.

Fifth. In children, restlessness at night, picking of the nose, precocious appetite, scratching or fingering of the rectum or anus or genital organs should call for a rectal examination.

Of course, a great many of the above named symptoms may arise from other conditions, but a surprisingly large number of them will disappear upon treatment of conditions discovered on rectal examination. Reflex symptoms, like those above mentioned, are often more important to the regular practitioner than to the rectal specialist, because people who consult a rectal specialist do so because they have symptoms which lead them to suspect rectal trouble. Those who consult general practitioners come for a diagnosis. When rectal trouble is suspected, the condition of the bowels should be inquired into, the shape of the stool, its color, odor,

consistency, frequency or infrequency of passage; whether attended by pain; tenesmus; straining and whether containing blood, mucus, particles of undigested food, etc., etc.

If pain is complained of, the point of pain, the kind of pain, the duration and the nature of the pain are all important in order to make the proper diagnosis. Itching, burning, and spasm of the sphincter are important points to bring out. The patient should also be asked if the rectum protrudes at stool and if so, if after much straining or upon slight exertion; and whether it disappears spontaneously or whether it must be replaced by him. If so, whether easily or with difficulty. It is also important to know whether the protruded part is hard, soft or nodular; whether it bleeds or not and whether it is painful to the touch or not. The habits of the patient, his occupation and personal history must be gone into. Whether he is an habitual user of cathartics or enemas; whether he has a venereal or tubercular history; whether the desire to go to stool is satisfied at the time, or whether there is a feeling as though something remained in the rectum, even after all efforts to defecate are exhausted; whether he has a regular time for going to stool daily; and whether he is in the habit of sitting long at stool or not.

After eliciting as complete a history as can be procured, the patient may be prepared for a local examination. An ordinary examination chair or table is sufficient. Either reflected daylight or electric head light is best for rectal work. The electric head light has given me the most satisfaction. Vaseline or glycerine may be used as lubricant for fingers or instruments. For examination of the perineum and external parts, or digital exam-

ination of the rectum, the left lateral or Simm's position or the lithotomy position will suffice, but in order to make a complete ocular inspection of the interior of the rectum and sigmoid, it is essential to place the patient in the knee chest position and to inflate the rectum. The accompanying charts will illustrate the correct position for inflating the rectum by atmospheric pressure and making the most satisfactory examination. A number of chairs and tables have been devised for holding the patient in this position but they are not essential to the successful examination of the rectum in this position.

The technique of a proper ocular inspection of the rectum is as follows:

The patient having been placed in the knee chest position, and the inspection of the external parts and the digital examination having been made (or in the case of the female, the bimanual examination as well) the tubular proctoscope with the obturator, fitted with a conical extremity, is gently but firmly pressed against the anus slightly downwards towards the umbilicus; and the patient is asked to bear down. The sphincter will grasp the speculum; it enters easily and painlessly into the rectal cavity. I might say, that if the entrance of the proctoscope occasions pain, the injection of a few drops of a 1 per cent. solution of cocain or eucain will render proctoscopy painless. When the obturator has been withdrawn, the atmospheric pressure causes the rectum to balloon and the air rushes in audibly. If the rectum seems to terminate at the end of the speculum, this apparent obstruction, by manipulation of the instrument to one side or the other, is found to be due to the impingement of the instrument against one of the valves of the

rectum. Beyond this valve, a cavity terminated by another valve will be seen and a third cavity beyond this. These three cavities terminate in the opening into the sigmoid flexure. The rectal valves, which are usually three in number, can best be described by reference to the accompanying charts. The beauty of simplicity, and facility of manipulation in inspection, which this method of examination affords, can only be appreciated by its demonstration on the patient.

ing agents, ointments, sprays, etc., etc., as the manipulations are under the absolute guidance of the eye.

Conditions will be found by the general practitioner upon examination of the rectum and anus, which he does not feel qualified to treat, and which must necessarily be referred to those who have given the study of rectal diseases and their treatment considerable time, and who are equipped to properly treat such cases as require more extended and radical treat-

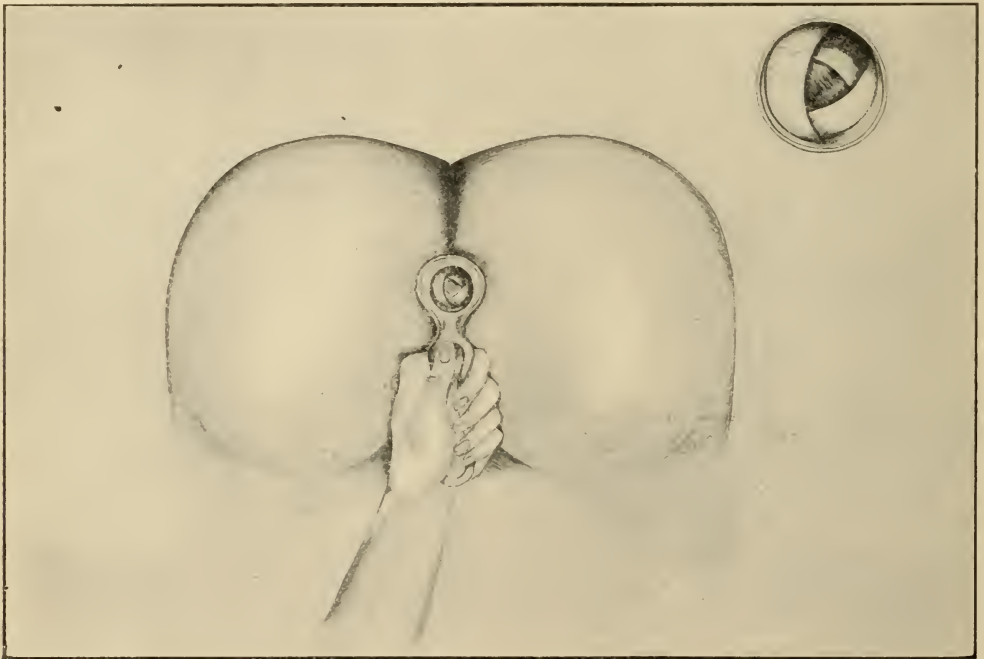


FIGURE 1—Showing proctoscopic view of the three rectal valves, as seen with the patient in the knee-chest position and the rectum inflated. The proctoscopic appearance of the valves is more clearly shown in the drawing in the upper right hand corner.

Ulceration, excoriation, polypi, tumors, inflamed areas, in fact, any pathological condition of the rectal surfaces are more clearly seen while the rectum is in a state of inflation. It might be truly stated that the era of satisfactory and complete rectal examination commenced with the assistance of inflation and proctoscopy. The knee chest position is most satisfactory for the application of cauteriz-

ment than can be given by the busy practitioner; but a great many proctological conditions can be successfully treated and relieved in the general routine of office practice.

I will not take up your time with an extensive discussion of therapeutic agents at our disposal. A great many textbooks are now at the disposal of everyone which go into detail in this regard. I

might say that in the treatment of excoriations, ulcerations, proctitis, and other inflammatory conditions of the rectum, nitrate of silver, ichthyol, balsam peru and iodine, have been my most satisfactory agents. A small polypus can be removed painlessly by means of a cold snare or snipped off with the scissors and the stump cauterized without analgesic agents. Cocain should never be injected into the rectum, as its absorption, even in weak solutions, has resulted disas-

ploration, is that disease which is now known as "Obstipation." Obstipation, to my mind, is best defined as difficult defecation due to mechanical obstruction to the fecal passage. This obstruction may be an integral part of the rectal wall or may be due to an impingement of some organ upon the rectal wall. Obstipation thus will be seen, in contradistinction to constipation, to be purely a mechanical condition. Constipation, however, is deficient rectal elimination caused usually

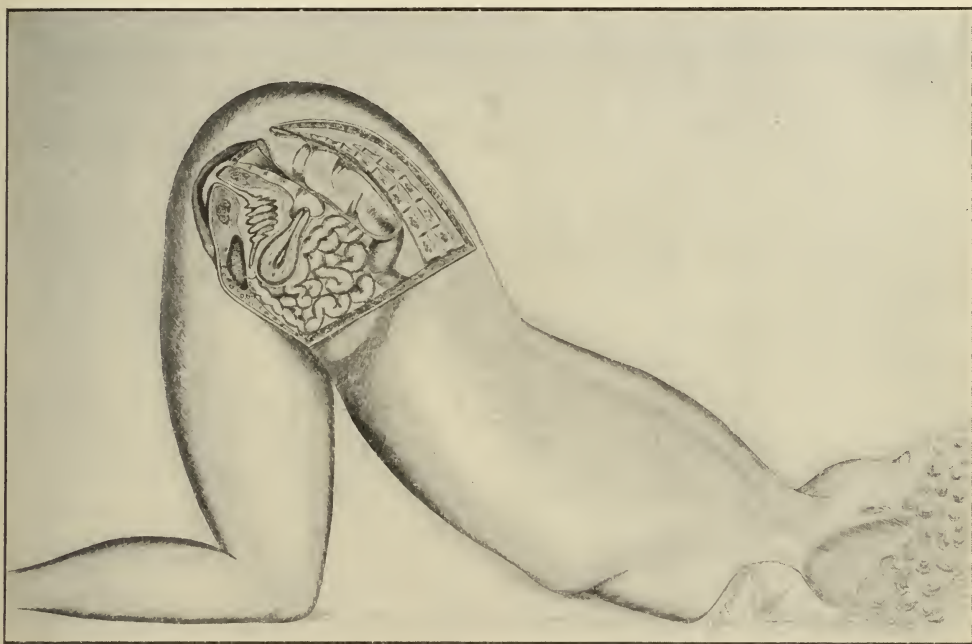


FIGURE 2—Section through pelvis of patient in knee-chest position, with rectum inflated, showing rectal valves in situ.

trously and even fatally. Eucain is far more satisfactory.

The rectum above the first two and a half or three inches, is not supplied with sensory nerves and I have repeatedly performed operations in this portion of the rectum without any analgesic assistance.

Probably the most important condition which has been brought to our notice by means of this newer method of rectal ex-

ploration, is that disease which is now known as "Obstipation." Obstipation, to my mind, is best defined as difficult defecation due to mechanical obstruction to the fecal passage. This obstruction may be an integral part of the rectal wall or may be due to an impingement of some organ upon the rectal wall. Obstipation thus will be seen, in contradistinction to constipation, to be purely a mechanical condition. Constipation, however, is deficient rectal elimination caused usually

by faulty diet or atony of the muscular coat of the bowel, thereby weakening its propelling power. Obstipation, by its checking the proper excretion of waste products, will be found to be at the foundation of a great many diseases. Most cases of obstipation, it has been found by modern proctoscopy, are due to enlargement or fibrous thickening of one or more of the rectal valves, and this condition has been entirely relieved by valvotomy.

It might not be amiss to describe the symptoms of the average case of obstipation.

The patient will first complain of an inability to defecate properly or comfortably. He will tell you that he has a desire to go to stool, more or less regularly, but in spite of his straining efforts he can void nothing at all or perhaps a few hard, apparently broken off pieces, usually dark in color; or long ribbon shaped or flat stools, sometimes accompanied by mucus. He will inform you that this condition has existed for a considerable time; that cathartics do not have the proper effect; that he is troubled constantly with abdominal distension; that even after ordinary defecation there is a sensation of fullness remaining in the rectum. The rectum and anus may feel hot and burning, packed or stuffed. This feeling is with the patient constantly. He tells you that he goes from two days to a week or more without stool unless produced by catharsis.

There may be tenderness in the lower abdominal region and a large fecal mass may be felt in the region of the sigmoid. The ribbon-shaped, broken off stool, I consider almost pathognomonic of this condition. I have seen several patients who have come to me with a diagnosis of rectal stricture made by passing rectal bougies and the presence of ribbon-shaped stools, when proctoscopy showed them to be caused by obstipation due to hard, fibrous rectal valves, whose section gave complete relief. The straining, with the inability to void the stool is explained by the fact that the enlarged rectal valves overlapping, impinge one upon the other during the bearing down movement, absolutely obstructing the passage of solid feces. If the two thickened rectal valves

do not completely appose, a narrow, elliptical chink may be left, through which the flat ribbon shaped stool is moulded. The intermittency of the propulsive effort is responsible for the short broken-off stool. The other symptoms of intestinal auto-intoxication are usually present in these cases.

If there is not a great deposition of fibrous tissue in the valves, simple massage by means of the proper instruments may effect a cure. Usually, however, operative procedures are needed to give complete relief. Obstipation, due to impingement of a retroverted uterus or prolapsed and cystic ovary will be relieved by the proper attention to those organs.

It is not my purpose in this paper to go into detail in regard to therapeutic measures for the relief of conditions discovered upon rectal examination. If I have succeeded in bringing before your minds the importance of rectal examination, and have shown the simplicity of such examination; and, moreover, if upon such examinations, conditions are found which were otherwise unsuspected, I feel that these few words have fulfilled their mission. Therefore, in conclusion, I would ask for the sake of your patient's welfare and comfort, that in those cases with symptoms which have been mentioned, in which the diagnosis is somewhat obscure, that such examination, as I have imperfectly outlined, be made. The satisfaction of discovering the true cause of erstwhile baffling symptoms will amply repay you for your time and trouble.

DISCUSSION.

W. L. Dickinson, Saginaw: I can agree with every word the essayist has said in regard to these examinations, the necessity of making such examinations and his method of doing it. I wish to say one thing, and that

is, that I believe when you come to make your examinations, using a proctoscope, that long at first you will have difficulty in making out just what the diseased condition is. That has been my experience, and I have been making these examinations now for three or four years and I know that I can make them to-day better than I could two years ago. I can tell better what I have, but just as the doctor said, when you know what to look for you can take the proctoscope and you can diagnose the diseased condition just as well as you can some diseased condition on the back of your hand. You have the field in view so that you can go on and make the local applications, and you not only benefit but cure your patient.

I agree with the doctor thoroughly in the necessity of either incising or putting a clip on the rectal valves. You can use either Dr. Gants' or Pennington's clip for cutting through this hardened leathery rectal valve. You have probably all seen Pennington's clip, the doctor did not describe this so I will speak of it: We will say this web represents the valve, Dr. Pennington has a little clip that he puts on causing a necrosis of the tissue; there is no danger in using it and you will get good results by its use.

L. J. Hirschman, Detroit. I have only a word to add, not with any intention of continuing the discussion, the point was to help you if possible in showing what you are to look for; that was my purpose in bringing the chart before you. With the patient in the position which has been outlined in this chart, he is in the knee-chest position resting on one shoulder for comfort's sake, and it will be found on inserting the tubular speculum that the rectum will inflate very readily by atmospheric pressure. At the end of two or two and a half inches you will find what is apparently an occlusion of the rectum. By manipulating the proctoscope from one side to the other you will pass the first edge of the rectal valve and you will see another cavity that is ballooned out. The proctoscope which I have used is a simple one and with the patient in the knee-chest position I think that is the only way of examining satisfactorily, but you must have the rectum inflated. You can do that either by using air pressure, by means of a pump, or putting the patient in the knee-chest position, when in the case of a female the uterus falls forward and there is nothing pressing on the rectum. You can thus discover a great deal more about rectal

diseases and also the etiological causes of a great many other diseases that have been treated by drugs with indifferent results and you might even find a new source of cause for headaches.

DISORDERS FROM EYE-STRAIN.*

OIDIUS A. GRIFFIN,

Ann Arbor.

When a patient presents himself for consultation, be his affliction whatever it may, the physician, in determining the nature, location, and cause of the condition, must be ever mindful of the complexity of details which an apparently simple disorder may present. No class of disorders, however, more positively illustrate this fact than the neuropathic, reflex disturbances which result from different forms of eye-strain. Indeed, so varied and seductive are these manifestations that the most expert sometimes fail in a proper interpretation of the symptomology.

When we recall that, with imbalance of the extra-ocular muscles, especially exophoria and hyperphoria, and the presence of hyperopic refractive conditions, a constant muscular effort is made to remedy these defects in order to secure distinct vision, then it is that we can appreciate the vast amount of nervous energy that is often expended in the correction of heterophoric or ametropic conditions. The heart, which we are wont to regard as unceasing in its work, enjoys a longer period of rest than activity; but in instances of eye-strain, the correcting muscles are under a constant tension during all the hours of visual activity. So long as there obtains a sufficiency of reserve force to supply this continued expendi-

*Read before the Section on General Medicine at the annual meeting of the Michigan State Medical Society at Detroit, June 11, 1903, and approved for publication by the Committee on Publication of the Council.

ture of nervous energy, the symptoms are latent; but finally an exhaustion occurs, accompanied by manifestations of a varied symptomology. The normal eye often tires with a physiological amount of work; but when an effort is made to employ a defective visual apparatus, the task becomes not only unpleasant, but often distressing to a marked degree with more or less reflex disturbances, depending upon the nature and extent of the eye-strain, together with the systemic condition of the individual. Hence a muscular or refractive defect which produces few or no symptoms in one instance, may so affect the health of another person that a serious impairment of the vital functions occurs.

The usual symptoms characteristic of a heterophoric or ametropic condition may, for the sake of brevity, be grouped under two headings: phenomena of (a) muscular asthenopia, and (b) defective vision. With the former conditions, the patient complains of pains within the orbital cavities; headaches, confined to the frontal, temporal, or occipital regions; irritation of the palpebral conjunctiva, and a hyper-lachrymation, which may obtain constantly or upon doing near work only. In the former instance, the symptoms will be aggravated upon close application, e.g., reading or sewing. Blurring of vision, both for distance and near use of the eyes, may occur; but usually obtains, excepting in myopic conditions, only upon close application, especially in the young who have the necessary accommodative power to overcome the defect. Aside from myopia, therefore, normality of sight does not exclude the existence of refractive errors, especially the smaller and moderate degrees of hyperopic and astigmatic conditions. So far as symptoms are concerned, it is impossible to differentiate a muscular

imbalance from an ametropia, excepting when an extra-ocular muscle becomes sufficiently weakened that it can no longer cope with its opponent, when a diplopia occurs. If the condition is not properly treated at this stage, the latent imbalance of the eyes becomes a strabismus.

It is to the importance of reflex disturbances resulting from eye-strain that I would specially direct your attention. As previously indicated, these disorders are so varied, complex, and oftentimes pronounced that the symptoms of the etiological, ocular defect are quite unappreciated, in many instances, by both the patient and his attending physician. The constant, unceasing efforts at a correction of the mal-condition often exhausts the vitality of even the most robust, which manifests itself by an impairment of a weakened function or the system as a whole. As a result, we frequently meet with instances where a chronic headache, migraine, gastric disorder, neurasthenia, insomnia, epilepsy, chorea, or hysterical condition has resulted from an eye-strain, and continues so long as the causal defect is not properly remedied, despite the medicinal treatment which is so often erroneously employed. Indeed, as Ranney so aptly sums up the matter in his work upon Diseases of the Nervous System, "We shall in time more clearly recognize the fact that drugs do more harm in functional neuroses than good whenever any exciting cause of such a morbid condition persists and can be removed; just as we today rely, in case of a joint disease, more upon mechanical separation of the surfaces of the inflamed joint than upon anodynes to relieve the pain. We shall learn to search more carefully and intelligently for obscure causes of reflex disturbances, and to try the effect of their removal before we resort to

drugs. Medication must eventually, in my opinion, become the *dernier resort* of the physician, in this particular class of nervous diseases, rather than the haven of refuge."

To briefly illustrate the validity of my position in this matter, I will cite a few characteristic instances which have often been met in my practice:

Case 1. Mrs. M. S. W., aged 35, vocalist, presented the following history: Since childhood patient has been subject to a periodic headache which she regarded as hereditary, occurring every two or three weeks. Though apparently in good health, she complained of heart trouble, dyspepsia, marked constipation, and periods of extreme nervousness. With the development of the headache, her circulation would become sluggish and an uncontrollable nausea and vomiting would occur, which would so exhaust her strength that she had to keep her bed for several days. During this time, her suffering was so acute that she would become quite emaciated. Having employed several physicians, the diagnoses were of course varied. One regarded the condition as due to migraine; another thought that the weakened heart was productive of all the trouble; while a third emphasized the importance of the gastric disorder. None of them gave her any permanent relief. Finally her refractive symptoms became so evident that she consulted me regarding their nature and correction. Upon examination the following data was obtained: Visual acuity O.U. was 20/60; under homatropin the vision became 20/120; refraction revealed the following condition:

O. D. with $-1.00 + 2.25$ ax. $60 = 20/15$.

O. S. with $-0.75 + 2.25$ ax. $120 = 20/20$.

This correction was prescribed to be worn constantly. Although several years

have elapsed since this defect was remedied, she has enjoyed a complete cessation of all her former symptoms, excepting upon two occasions when her broken lenses were being replaced, during which time the symptoms partially returned.

Case 2. Mr. C. S. R., aged 32, insurance agent, has suffered during the past three or four years with eye-strain, headache more or less constant, general debility, and gastric disorders. Had treated with several physicians, but without permanent relief. Was referred to me for an examination of his eyes, when the following conditions were found: Visual acuity O. U. 20/15; under homatropin 20/40.

O. D. with $+1.00$ ax. $90 = 20/15$.

O. S. with $+1.25$ ax. $75 = 20/15$.

A test of the muscular condition showed 6° R. Hyperphoria, internal and external recti normal and in balance. Advised use of correcting lenses for the ametropia for several months with a possible view of remedying the muscular imbalance. Symptoms somewhat improved under this treatment, but muscular condition remained practically unchanged. Advised graduated tenotomy of the right superior rectus. Operation was performed after which 1° of insufficiency still remained. Glasses ordered to be worn constantly. The symptoms practically all disappeared within the course of a few months, without any medicinal aid.

While I view this subject from the standpoint of an ophthalmologist, I would have it distinctly understood that I am not one of those who attribute every ailment of the human flesh to the presence of an ocular defect; but simply desire to emphasize the possibilities of muscular defects and refractive errors in the production of various reflex disorders, as indicated above.

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Editorial

THE FIELD OF THE STATE MEDICAL JOURNAL.

In the September issue of the Illinois Medical Journal, the official organ of the Illinois State Medical Society, the field of the State Journal is carefully considered. The Editor corresponded with many of the prominent Medical Editors in the United States to ascertain their views as to the usefulness of the State Journal. The concensus of opinion was "that there is a distinct field for Medical Society Journalism." The Editor voices our opinion when he states: "As we see it at present such a journal should publish the transactions of the State Society and of the affiliated local societies. Much earnest and profitable work is being done in these small societies. The Medical Society is a great educational factor. More than half the education of a physician is derived from association with his colleagues. The journal should keep the profession of the State fully informed as to the doings of the Boards of Health and Board of Examiners, State institutions, and all other medical or semi-medical institutions in its State. Local health conditions throughout the State are a source of constant interest, and each official reporter and health officer should furnish the Journal full and reliable reports in health matters."

The Secretary of each County Society should be the official reporter of the County and should keep the profession thoroughly informed through the Journal of all matters in the State of interest to the profession. These Secretaries are a part of the reportorial staff of the Journal and should do all in their power to assist the Editor in this work.

THE PRESS COMMITTEE AND THE NEWSPAPER.

In his address before the Wayne County Medical Society at Detroit, September 3rd, the retiring President, Dr. F. B. Tibbals, advocated the appointment of a Press Committee by each County Society, "whose duty it shall be to prepare articles for the local press on timely medical topics regarding which the public is uninformed, and edit such medical copy as shall be submitted to them by the Press; such articles to be signed simply 'the Press Committee of the County Society.' Being accurate and trustworthy and bearing the name of no individual, they would meet no ethical objection."

It is contended that "the average newspaper man is incompetent to determine from the standpoint of accuracy what *news* is in medical matters, and hence gladly publishes any kind of sensational tommy-rot, knowing it will be eagerly read and accepted as fact by the credulous lay reader, however absurd it may appear to the well posted medical man."

Unfortunately the average newspaper Editor has as small an opinion of the medical man's ability to write what he considers *news* in a manner readable by the average layman and, while admitting that the matter may be scientific, accurate and

of value, knows that it would not be read. He believes the profession of medicine and the art of newspaper reporting are distinct; and, as in most all cases, the newspaper Editor has the advantage of being the final judge, we believe that, while the step is in the right direction, it will not meet with the approval of the newspaper until some man, versed in reportorial work, gives special attention to reporting medical matters. The reporter will have to be made more familiar with medical subjects, but he must be foremost of all a reporter.

A COURSE AT THE DETROIT CLINICAL LABORATORY.

Desiring to place at the disposal of every physician of the State an opportunity to become familiar with the value and the technique of the Modern Laboratory Methods as applied to Diagnosis, the staff of the Detroit Clinical Laboratory is giving an interesting and practical series of lectures in radiotherapy, hematology, pathology and bacteriology. The lectures are held in the laboratory building three nights of the week, so arranged as not to interfere with the meetings of the Wayne County Medical Society. A nominal fee of \$5.00 is charged.

The staff is to be congratulated upon inaugurating such an excellent system and upon the care with which the course is prepared. It is hoped and believed that the course will be well enough supported by the profession as to encourage the staff to continue the work from year to year upon even a larger scale.

That the officers of the State Society may be able to carry out the work entrusted to them, it is absolutely necessary that

each member shall promptly pay his dues to the Secretary of his County Society. These dues are payable in advance. We conduct the business of editing the Journal upon a cash basis and must have the funds necessary for the proper conduct of the same.

County Society News.

CALHOUN COUNTY.

Calhoun County Medical Society (Branch No. 1, M. S. M. S.) held its third quarterly meeting in the Leisure Hour Club rooms, at Albion, Sept. 1st, 1903, with thirty members in attendance.

A. P. Biddle, of Detroit, Editor of the JOURNAL, and A. E. Bulson, of Jackson, ex-President of the M. S. M. S., and now Councilor for the Second District, were present and did much to enhance the interest of the occasion.

After admitting six new members, the society listened to a very able paper on Abscess by A. J. Abbott, of Albion.

A paper on "A Study of Some Remote Effects of Venereal Diseases, with Suggestions" was read by W. H. Haughey, of Battle Creek.

F. J. Otis, Bacteriologist of the Battle Creek Sanitarium, favored the society with his New Orleans Prize Paper on "Blasteomycetes," illustrating it with a large number of stereopticon views, showing the germ in all its different stages of growth, as well as the pathological anatomy of the parts affected by it. No abstract of this paper could do it justice, and as we understand that it will soon appear in extenso in the JOURNAL of the A. M. A., we refrain from further report.

ABSCCESS.

A. J. Abbott, Albion: In his paper, gave the pathogenesis of abscesses, naming the various germs which cause them. Speaking of the treatment, he urged aseptic and antiseptic treatment; condemned the use of poultices and the curette, and cautioned against hard pressure and squeezing for fear of breaking down nature's barriers and spreading the infection.

A STUDY OF SOME REMOTE EFFECTS OF VENEREAL DISEASES, WITH SUGGESTIONS.

W. H. HAUGHEY, BATTLE CREEK.

Some weeks ago the chairman of the committee, appointed by the State Society to secure data regarding the prevalence of venereal diseases in

Michigan, requested me to secure a paper for this meeting on some venereal subject and report the discussion to that committee; a similar request having been made to the secretaries of all county societies in the state. After asking several gentlemen who, I thought, could write such a paper better than I could, I found it necessary either to write it myself or not get it; hence this paper.

For five years I have not treated venereal diseases in my practice and have only met the after effects of them in a surgical capacity. I shall not attempt, therefore, to treat any form of venereal diseases at this time, but, as the object of the committee is to get data as to prevention and practical suggestions as to the best means to control, modify or lessen the evils arising therefrom, will discuss somewhat these phases of the problem.

That at least one-third of all medical practice is treating diseases peculiar to women is a common opinion among medical men; that a large percentage of these diseases are of venereal origin is well known, and that much of the remaining percentage is due to misuse of the sexual and reproductive functions is a growing belief.

In a well written article read before the General Medicine Section of the State Society, at its recent meeting in Detroit, and published in the August number of the JOURNAL, Dr. J. A. Porter, of Brooklyn, calls attention to this latter phase and pleads eloquently for such widespread and diffused education along the lines pointed out in his article, as will lead to a change of heart and awake the laity to the troubles they invite, added expense they incur, ills of health they bring on, with the inevitable shortening of life, decrease in the birth rate, and a retardation of the forward progress of our race. He even shows how the ultimate race extinction can by these means be brought about. He argues, and this argument is well worth our attention, that the best brains and those most capable of solving the problems of state and advancement in all lines are not increasing, nor reproducing their kind in proportion to the needs nor in proportion to the increase and reproduction of those less trained and, therefore, less capable to grasp and solve such problems. This he attributes to parents, who have received through heritage and education strong mentalities and brains capable of advancing the problems of life and improving the race, positively refusing to reproduce in anything like the proportion their numbers bear to the population.

Is this proposition true? Does mentality, education and culture through several generations tend to lessen our powers of reproduction and thus exterminate the thinkers so carefully bred through

those successive generations? Is it necessary to begin again after each cycle of generations to educate and breed up from plebeian stock another corps of thinkers? And must they in turn die out to give room for still another? Perish the thought.

That this condition prevails widely at the present time I will not deny. But that it is a necessary concomitant and natural penalty to more perfectly developed brains, stronger mentalities and higher education I deny, and deny emphatically.

This brings us to the study of the causes of sterility, and with it to the proposition rapidly gaining converts "that sterility is mainly due to venereal and moral causes; and to heritage in inverse ratio as to the extent these two causes are transmitted." We, as physicians, try to make ourselves believe, that, after a man has contracted syphilis, he may be so nearly cured as to beget healthy children, but down in our hearts we firmly believe that while this result may be possible, it is not probable; that only in exceptional cases is it accomplished. That in the large number of cases the offspring shows indications of inherited syphilis. This being true, it follows that a large proportion, perhaps two-thirds of all men, who beget children after being, as they supposed, cured of syphilis, beget syphilitic children who, if not sterile, in turn may and often do pass it on to subsequent generations. How far this might go I cannot say, but if horse breeders are obliged to breed to thoroughbred stock through six generations before exterminating the last vestige of common stock and a perfect thoroughbred animal attained, and then only where the closest attention to details has been observed and absolutely no opportunity for a fresh injection of common stock anywhere in the long line has been allowed, who can say when this taint can be bred out of the human subject where no attention to the matter is given, and *indeed* a strong probability of infusing a fresh strain of syphilitic blood at any one of the generations is present. Hence, were it possible to eliminate it in six generations, how could we know that a fresh strain had not been introduced somewhere during the six. We can, therefore, expect no, or almost no, help in exterminating syphilis from heredity.

How about gonorrhoea? So far as I know gonorrhoea is not inherited. If a man contracts gonorrhoea he may, it is true, be so far cured as to enable him to beget children. But let us note the effect so often produced on the mother. If young and innocent, and this is the first pregnancy, she offers a more fruitful field for the pro-

pagation of the gonorrhoeal poisoning than one who from a previous infection might possibly be immune. Hence, with the conception of the child, she also, from the infected semen, conceives gonorrhoea, in a mild form it is true, but sufficiently virulent to pursue its course concomitant with the pregnancy, which terminating either in abortion, premature deliverance or at term, leaves her still an invalid from the gonorrhoeal infection. Now owing to the hyperaemia and congestion of the parts during the pregnancy, this infection has spread rapidly till all the pelvic organs may be involved and we soon find inflamed ovaries, pus tubes, endometritis, or all three. These are followed, in the favorable cases, by inflammatory bands, prolapsed ovaries, adhesions and sterility; in the unfavorable ones, by peritonitis and death, or ovariectomy, salpingotomy, or hysterectomy; and even death sometimes follows in this train, thus effectually preventing the transmission of any venereal disease by that mother. Therefore, while syphilis propagates itself down through the generations, gonorrhoea cuts the generations short and tends to exterminate the species. One man with gonorrhoea may infect several women, after which he may become cured and beget healthy children from still another woman whom he does not infect, but at what a sacrifice! When society learns that "female weakness" in a young girl is so often the result of gonorrhoea, then "female weakness" will be less popular! When society learns that peritonitis in a wife is so often the result of an abortion, then abortions should be less popular. When society learns that most of the nervous ills, uterine disturbances, curettements, etc., in young wives who were healthy before marriage are due to efforts to prevent conception or to disrupt it after taking place, then should such efforts be less popular. When those who must work for a living learn that it is cheaper to raise a large family than it is to support a sickly wife, and that a sickly wife, or a dead one, is the natural penalty for interfering with the course of nature in this respect, then large families will be more common among working people. When those who *think* for a living and for the advancement of the human race learn that it takes several generations of educated, healthy people to produce thinkers, and that venereal troubles sadly interfere with the process; when they learn to appreciate their true worth to the world; when they learn that large families bring health, happiness and a means of propagating their intellects, while no family robs the world of that intellect; when they learn that the opinion of all those whose opinion is worth

having is not condemnatory to large families; when they learn their power to quiet the scoff of the frivolous and unthinking; then will there be more large families among the thinking class; then will the world advance as never before; then will our race approach more nearly to perfection. When will this time arrive?

Religion has done much and will do more to help. Education is now coming to the aid of religion and the progress should be more rapid. I wish I could say it is more rapid, as that would speak well for education. The thing known as society, however, has always retarded this progress.

In my oration at Port Huron before the Section on Obstetrics and Gynecology, I said "society must purify itself, because the perpetuation of society depends on the purity of its morals." Is society doing this? Let us see. Every newspaper, every magazine, every periodical contains articles on large families. Every club, every social gathering, every family circle discusses this subject, and why this great interest? Because, awakened to the emergency of the case, and from the wholeness of his soul and realizing the great force and weight the position he occupies would give his words, our Chief Magistrate, President Roosevelt, some months ago spoke in no uncertain terms his desire for large families and his contempt for those who could but would not raise them. Coming from such a source will society obey? It will. Society is not wholly bad. Society at heart is good, but weak and fears to be scorned or laughed at. Frown on the scoffer. Correct mistaken ideas as to family expense. Teach the true cause of all troubles arising from venereal or moral origin. Account motherhood its due respect and true place in society. Treat barrenness as a fault or at least a preventable disease; teach man that he has a soul to preserve, and the problem is solved.

Led by the strong personality of President Roosevelt and his exalted position, society is fast doing this. Now is the golden opportunity for medical men to teach, and true to their principles they are *now* as they always have been *in the past*—teaching, with this difference, now we are being heard; before President Roosevelt spoke we were being listened to with polite indifference.

DISCUSSION.

A. W. Alvord, Battle Creek: This is an important subject and needs to be agitated. A much larger proportion of the ills with which we come in contact are results, either direct or indirect, of venereal diseases than is usually recognized. This fact explains to some

degree why so many who have attained a high place in life do not propagate their kind. Very few city-bred lads make a large success of life. It is the country-bred boy, fresh from the farm, who outstrips his city-bred competitor in either business or professional lines. The banker invariably comes from the working classes. Venereal diseases are seldom found on the farm or in the families of the frugal laborers. I heartily endorse this paper.

C. E. Stewart, Sanitarium, Battle Creek: I was very much interested in listening to this excellent paper by Dr. Haughey. Too much stress can not be placed upon the agitation of this important subject. Physicians alone are capable of appreciating the alarming extent to which venereal diseases exist, consequently the responsibility of educating the laity with reference to the evil effects which so frequently arise from this disease lies with them.

In order to be effective this education must be done in the homes, as the physician comes in contact with the individual members of the family. In making a study of the history of a large number of male patients who are assigned to me, I have been very much surprised to find that so large a percentage have, at some time, suffered from some form of venereal disease. At least three-fourths of these patients give a history of having at some time suffered from one or more forms of this disease. Such a condition certainly demands the careful attention of those who are in a measure responsible for the public health.

Dr. Haughey has struck the key-note on this subject, and I trust every member of this society will make a vigorous effort to help remedy this too prevalent condition.

F. J. Otis, Sanitarium, Battle Creek: This subject was agitated at New Orleans. I am gratified that it should be discussed extensively. We find at the Sanitarium that venereal diseases are very prevalent among the men. It appears in the history of almost all the chronic cases, and we are horrified to find that their wives almost always suffer far more severely. A large number of the women have also had these diseases, contracted in a large measure from their husbands. The only method of remedy is to educate the people to better ways, and I should be glad to work with any one to that end.

A. E. Bulson, Jackson: In my work as a specialist I find many of the ravages of specific disease. The late Dr. Henry D. Noyes, of New York City, claimed that in iritis and affections involving the fundus, at least

sixty per cent. were due to this cause alone.

Unfortunately, in cases of this kind, where specific disease is inherited, we cannot, as a rule, give this information to the parents, as in many cases, the imparting of such information has led to a dissolution of the marriage tie.

This terrible scourge is not confined to any one class of people, but is prevalent in every walk of life, and is rapidly spreading, like a mighty tidal wave, all over the land, and it is the earnest duty of every physician to seek to find some way to exterminate the evil, if possible. To him belongs the duty of enlightening the public, particularly the young men, upon the terrible nature and consequences of the disease.

The subject should be brought before every medical society in the state. Lectures might be given upon these questions before the various societies in an effort to create a sentiment, which would, at least, place a check upon the ravages of this scourge which is one of the worst upon the face of the earth to-day.

The profession is making constant investigation and laboring to find some means to arrest the spread of tuberculosis, and, I ask you, why not be equally vigilant in trying to find some means of stopping the spread of venereal disease?

The action of the Michigan State Medical Society in appointing a committee to tabulate reports of cases throughout the state is to be commended and with our present plan of organization we can accomplish much toward mitigating the disease, if we only work together to this end.

I am glad, indeed, that Dr. Haughey has given us this paper, and I trust that it is the beginning of a mighty crusade against this terrible plague.

H. A. Powers, Battle Creek: I am much interested in this paper. I am always interested when Dr. Haughey presents a paper; he seems to put his best efforts into his subject. He says the remedy is to come through education; I agree with him, but how are we to reach the ones that need educating? The church can aid, but it can do very little. The greatest educator of the day is the public press, and that is the way to educate the people to better ways. Publish this paper in the daily papers of this county and it will do more good than to publish it in all the medical journals of the state, because not yet come when this subject should be given it will reach the ones that need educating. Print boldly the results, paint the picture as bad as it is. We may discuss this subject in our medical societies until doomsday and it will do no good, because the people that must be educated will know nothing of it. It is not true that only a certain low class of people are affected by these diseases;

they reach every class, from the lowest to the highest in society, many of whom are innocent sufferers. My sympathy is for the innocent and not for the guilty. It may be that the time has to the public press, but it must and will come, if we are to accomplish the desired results.

R. M. Gubbins, Ceresco: This is a condition that more often exists amongst such people as those who are commonly employed by railroad contractors, canal builders, or builders of public utilities. These are transient, unskilled laborers. The uneducated and morally depraved are frequently afflicted by these disorders. The publication of such a technical paper as Dr. Haughey's would, in my opinion, fail to reach the right class of people. Farmers and the better class of working people, also the great majority of church members and other Christian people are fortunately free from this affliction. It is true that many cases are discovered amongst the rich, cultivated society such as frequent Newport and various other places. I believe that the education of the people is the only way to obliterate this disease. The publication of articles on this subject, written expressly for the instruction of the people, would meet with my approval. By publishing this valuable paper of Dr. Haughey's in our Michigan Journal, if the high merit we attribute to it obtains, attention will be attracted to it, and the editors of this country, who stand in advance as educators, will publish it far and wide and more good will be accomplished than by publishing it in the county papers.

J. C. Brown, Battle Creek: Any question, however solemn or sacred, seems to have its humorous side, so I am, if not surprised, somewhat amused that Dr. Gubbins should protest against race suicide. The point in the matter you will plainly see when I tell you—He is only an old bachelor, that's all.

J. H. Read, Battle Creek: I must compliment Dr. Haughey upon his paper. It is just such a paper as is needed at this time, in view of the fact that our state and our country generally have been aroused to the importance of checking this growing evil. My practice is such that I receive a large amount of this work. I have now under treatment twenty-two cases of venereal disease. Our city, with its two sanitariums, has one hundred and twenty-five physicians, hence if the other physicians have anywhere near a similar amount, just think what our country and society is coming to. There is a tremendous and ever increasing amount of venereal disease. It penetrates all classes and stages of society, rich

and poor, farmer and mechanic, black and white, it is no respecter of persons. In answer to Dr. Gubbins, who claims the farmer is immune, will say that such is not my experience, and recall a recent case. A farmer's hired man came into my office suffering from syphilis. I treated him and he left for his home. A few days later he returned with a woman who had become inoculated. History showed her to be the farmer's wife, who had accepted the attentions of the hired man on account of a quarrel with her husband. Later the husband had become inoculated and a little daughter also from using a towel used by the mother.

G. B. Gesner, Marshall: Although I endorse every word of the excellent and powerful paper of Dr. Haughey, and fully realize the vital importance of its contents to the people, yet I do not believe that the press is the right way to reach them on this subject. Many to whom the article would not apply would see it, but the ones for whom it is meant, if reading it at all, would point to their neighbors. It is true the immediate and remote effects of venereal diseases are appalling, but to restrict this evil we must either utterly change the animal instincts of man, or educate him. Of course we cannot hope to ever influence the animal instinct, but we can do much by educating men against the evils of prostitution. I think this can best be accomplished by physicians instructing their patients individually and personally, by picturing to them the inevitable and horrible results in their true light, gloomy and sad though they be. Do not take a case when it comes and tell the victim his condition is not serious, no worse than a cold as these traveling quacks do. Impress on the patient the gravity of the situation, especially the remote effects of his condition.

W. H. Haughey, Battle Creek: I am deeply grateful for the extended discussions my paper has received. I appreciate the fact, however, that it is the subject matter, rather than any intrinsic value of the paper itself that arouses this interest, and this is right. I thank the members all for the courteous treatment of me and my paper, and can only feel pleased at the expressed desire to have it printed. Permit me to say, however, that this paper was not prepared for the lay press, that there are many things in it which I should object to sending there. Farther, it having been read here, belongs to this society and to our JOURNAL, the *Journal of the Michigan State Medical Society*, to which I will send it. If it meets with favor from the committee on publication, and is printed, I will secure

sufficient reprints that you may all have a generous supply. One thought only do I wish to add to the discussion. In general, newly married people, or at least those experiencing their first pregnancy, are most apt to listen to our advice and follow it. This should be such that although it may result in the loss of a good fee to the doctor, it will leave him with a clean conscience and a high place in the esteem of the parties advised.

W. H. HAUGHEY, Secretary.

FIFTH DISTRICT MEDICAL SOCIETIES.

OTTAWA, IONIA AND KENT COUNTIES.

To be held at Grand Rapids, October 8, 1903.

PROGRAM.

Call to Order.....2:00 p. m.
Adjournment5:30 p. m.
Reconvene7:00 p. m.
Banquet8:30 p. m.
ToastmasterJ. B. Griswold.

Papers and Discussions.

Ovarian Fibroids, Specimen Case.....
.....S. C. Graves, Grand Rapids.
Discussion opened....R. R. Smith, Grand Rapids.
Resection of Knee Joint, Report of Case
.....T. G. Huizinga, Zeeland.
Discussion opened..W. G. Young, Grand Rapids.
Atropin in General Medicine..S. C. Cope, Ionia.
Discussion opened.....
.....H. J. Chadwick, Grand Rapids.
Hemorrhage after Cholē-cystotomy.....
.....W. Fuller, Grand Rapids.
Discussion opened..S. C. Graves, Grand Rapids.
Pneumonia, Report of Cases.....
.....J. E. Ferguson, Belding.
Discussion opened..Earl Bigham, Grand Rapids.
Plastic Operation in Gynecology.....
.....J. J. Mersen, Holland.
Discussion....F. A. Rutherford, Grand Rapids.
Diagnosis and Treatment of Acute Gas-
tro-Intestinal Diseases of Children..
.....Collins H. Johnston, Grand Rapids.
Discussion.....B. B. Godfrey, Holland.
Last Two Doctors.....
.....W. S. Walkley, Grand Haven.
Discussion.....O. L. Dales, Grand Rapids.
Vesical Calculi.....John Brady, Grand Rapids.
Discussion.....Henry Kremers, Holland.
Chronic CystitisF. W. Braley, Saranac.
Discussion.....J. B. Hilliker, Grand Rapids.

Appendicitis, Simulating Typhoid Fever,
Operation..Ralph H. Spencer, Grand Rapids.
Discussion.....C. S. Cope, Ionia.

An Expedient in Carbolic Acid Poison-
ing.....E. F. Beckwith, Ionia.
Discussion...L. H. Chamberlin, Grand Rapids.

Iritis Dependent upon Rheumatism and
Syphilis, Treatment.....
.....L. A. Roller, Grand Rapids.
Discussion.....J. Harvey Innis, Grand Rapids.

Papers limited to 15 minutes. Discussion
limited to 5 minutes.

D. EMMETT WELSH, Councilor.

H. W. CATLIN, Secretary.

HOUGHTON COUNTY.

The annual meeting of the Houghton County Medical Society was held in Calumet, September 7th, with a very good attendance. The election of officers for the ensuing year was held. The list of new officers is as follows:

President—J. E. Scallon, Hancock.
Vice-President—A. B. Simonson, Calumet.
Secretary—James Hosking, Kearsarge Mine.
Treasurer—A. G. MacLeod, Calumet.

The address of the evening was given by E. C. Dudley, of Chicago, on "Some Means for Lowering the Mortality in Abdominal Surgery."

As this was an informal talk without being written, I am not able to send a copy of it. I have not been able to send a good synopsis of discussions in the past as I have not had full enough notes. We expect to have a stenographer present at the meetings in the future and the Secretary can probably furnish much better reports than I have done. Some of our meetings have been such good ones that I am very sorry I have not complete records of them.

W. K. WEST, Secretary.

HURON COUNTY.

The Huron County Medical Society held its regular meeting at Harbor Beach, July 14, in the council rooms—one of the best attendances of the society. Papers by several members presented and discussed. Dr. Attridge, of Detroit, read a paper on surgery; Dr. W. B. Outten, of St. Louis, Mo., gave his views on some things of interest to the society. The doctor is very much interested, in fact is pushing matters looking towards having one of the most interesting medical congresses

to be held next year at St. Louis, "The Louisiana Exposition." Dr. Attridge's paper was a clean cut presentation of the method and procedure of the surgery of the special subject chosen.

The program for the afternoon was looking through some of our manufactories, surry ride to the summer resort. Mrs. George Jenks gave permission to the party to see the inside of her summer home. Mrs. Clark passed them through the club house. A boat ride was then made to the lighthouse and breakwater. Hotel reached at six o'clock. Meeting held in council room, called to order at 7.30. Papers read by members of the society, Drs. Herrington and Conroy of Bad Axe.

Drs. Otto Frenzell of Pigeon; F. E. Luton of Kilmanagh; J. H. Switzer of Port Hope; D. Conroy, W. J. Herrington, and M. R. Lyman of Bad Axe; A. J. Charlton of Greenleaf, and D. J. McColl and Fred. H. Shuts of Elkton, attended the meeting.

D. J. McCOLL, Secretary.

INGHAM COUNTY.

The Ingham County Medical Society met at Council Rooms, City Hall, Lansing, Thursday, September 10, 1903, 2 p. m.

PROGRAM.

Business meeting.

Paper—The Surgical Consideration of Intestinal Perforation in Typhoid fever. By R. J. Shank, Lansing.

Discussion led by W. W. Root, Mason.

Paper—Infantile Ophthalmia. By A. D. Hagadorn, Lansing.

Discussion led by H. A. Haze, Lansing.

L. ANNA BALLARD, Secretary.

LIVINGSTON COUNTY.

The Livingston County Medical Society held its annual meeting at Howell, Sept. 15. Following officers were elected:

President—W. J. McHench, Brighton.

Vice-President—A. S. Austin, Fowlerville.

Secretary-Treasurer—R. H. Baird, Howell.

Directors—W. C. Huntington, Howell; J. H. Egbert, Howell; A. S. Austin, Fowlerville; W. H. Erwin, Oak Grove; H. F. Sigler, Pinckney.

C. L. Sigler read a paper, "Puerperal Infections."

Adjourned to meet in Howell second Tuesday in December.

R. H. BAIRD, Sec'y.

MANISTEE COUNTY.

STATIC ELECTRICITY IN MEDICINE.*

J. E. PELTIER, MANISTEE.

Static electricity was given to medicine about the year 1750. It was brought to America by Benjamin Franklin about 1752. The modern Holtz induction machine, the representative source of static electricity to-day, is now made in several sizes, from six plates to thirty-six plates. No detailed description of the improved static machine is required, for its general appearance is familiar to all physicians.

A physician unfamiliar with static electricity but familiar with statements by well known authors declaring static electricity a failure would be amazed to witness the performance of a splendidly handled and powerful Holtz machine. The strictures perpetuated in some medical writings would seem irreconcilable with the evidence of his eyes; but, however incredible he may regard them in the presence of a superbly powerful apparatus, they become perfectly credible if we apply them to an inferior machine acting under unfavorable conditions. The static machine must, therefore, be considered on the individual merits of itself and operators, as distinguished from static electricity in the abstract. No cripple is more helpless than such a machine without its electrical charge. It is absolutely useless. This is why static electricity was abandoned so many years ago. But all modern Holtz machines are self charging and therefore give us but little trouble, and then only on damp, muggy days in summer.

Almost every disease treated by many physicians by this agent in 1896 was successfully treated by it by a few men a century ago. Methods, electrodes, and principles involved are practically the same, with the exception of Leyden jar currents and the substitution of induction for friction by Holtz in 1865. The great development of the decade 1885-95 placed static electro-therapeutics upon a firm and advanced basis. Its efficiency in producing X-rays puts a fitting climax upon the achievements of the improved machine.

The subject assigned to me is so broad that I can but barely touch upon the therapeutical value of static electricity, so I will simply mention some of the more prominent diseases I have cured with this agent.

First, I call your attention to incipient colds. The strong tendency of static electrification to restore to normal the functional processes is most

*Read before the Manistee County Medical Society April 28, 1903.

strikingly displayed within the nervous, circulatory, and muscular systems; and I have often observed its efficient action in the first stage of a cold. The following case will illustrate:

Miss J. B. W—— came into my office one morning and complained of having caught cold. The night before she had been awake nearly all night—complete anorexia, nausea, headache, creeping chills and extremities cold, head hot, and general prostration. Placed her upon the insulated platform positively insulated, with negative pole grounded. After five minutes of this positive electrification her symptoms ceased. Headache gone, hands and feet warm, nausea absent. I closed the treatment in fifteen minutes. She then declared that she felt as well as ever and has since remained so.

There are two lessons enforced by this kind of static electricity in acute disturbances; one is, that when no invasion of febrile disease is taking place, positive electrification will direct the functions into a normal state.

Second, that the usual short application is ineffective, and that two or more long sittings repeated the same day will almost always abort a condition that would otherwise prove tedious and annoying.

I have also treated lumbago, torticollis, pleurodynia, and all forms of muscular rheumatism and muscular pain,—acute, subacute, and chronic. I seat the patient, fully clothed, upon the insulating platform of the machine, and connect it with the negative pole, ground the positive pole, together with the brass point electrode, to a gas fixture. I then start the machine into moderate action and apply a concentrated positive breeze to the painful part. I gradually sweep the point nearer the surface so that a succession of spray showers will be thrown upon the muscle affected. In a moment I increase the intensity of the application so that fine needle sparks mingle with the spray. I then suggest to the patient to attempt such movements and positions as are most difficult and which aggravate the pain. The effect of this positive spray will immediately be warming, sedative, relaxing, and anodyne to the stiffened and sore muscles. In recent and simple cases such a counter-irritant spray will produce entire relief in from five to ten minutes. If the case is of a little longer standing slow down the machine and apply a sufficient number of positive sparks from the grounded brass ball electrode to complete the relief.

I generally begin with a very fine spark and increase the vigor gradually until results are secured. If the case is still more chronic and deep seated,

and has resisted a good deal of other treatment, I proceed at once to vigorous counter-irritant treatment by applying single, thick, clean sparks directly to the site of pain and over the adjacent muscles. I apply a few at a time and note the relief they afford. I continue to posture the patient so that every possible aggravation of the pain is caused and in each position I apply sparks as above until relieved, and I persist until the patient steps from the platform free from pain and walks and moves about with perfect comfort. The length of time required in any case will rarely exceed ten minutes. If static electricity is properly applied to muscular rheumatism and fails to produce satisfactory results, the patient has some other affection and not muscular rheumatism. There is nothing more certain in therapeutics than the absolute relief to all forms of muscular rheumatism afforded by electrical currents, and the simplest and most effective current to apply is usually the static. I do not wish to further tire you with the application of this form of electricity, yet, before I pass on to the most important part of this wonderful machine, namely, the X-ray, I wish to state that it is the greatest agent we possess to-day in our whole armamentarium of therapeutics.

About the beginning of the year 1896, Prof. Wm. Conrad Roentgen, of Wurtzburg, Bavaria, gave to the world his discovery of the X-ray. During the first months of that year the opinion prevailed that thus far the only apparatus known which would produce X-rays readily and profusely was the induction coil. Such a transformer gives exceedingly great electro-motive force capable of producing discharges over long air gaps. When the discharge from such a coil is passed through properly exhausted and constructed tubes, we have a very vigorous generation of X-rays. During this same experimental period the static machine was known to give exceedingly great electro-motive force, capable of producing discharges over long air gaps, surpassing in these respects the capabilities of the ordinary coil. It was tried, and for the most part rejected in early X-ray work for the wholly sufficient reasons which demonstrated that, first, the discharge from static machines was not then passed through tubes properly exhausted and constructed for the static current; second, that scarcely any of the experimenters were skilled in the manipulation of such an apparatus, and the few who were expert with static electricity could not then procure Crook's tubes adapted to its great electro-motive force. Five months later Dr. S. H. Monell was practically demonstrating to physicians in his office and clinic

that when the discharge from the Holtz machine was passed through Crook's tubes, which proved to be properly constructed and exhausted to suit this form of current of extraordinary potential, there resulted a generation of X-rays from twenty to thirty per cent. more vigorous and profuse than the production of the best coils then known to be employed; and from three to five times more useful to the diagnostician than the X-rays of average-priced coils, and far more valuable than the feeble glimmer of the coils and small tubes in most common use. The practical value of the Roentgen ray in routine work consists in diagnosis, skiagraphy, and therapeutics. You are all familiar with the diagnostic uses of the rays for surgical work; for locating foreign bodies, for fractures and luxations, and growths upon bones such as osteomata. These can readily be seen by the fluoroscope, and though wonderful are but a fractional part of the wondrous works of the X-rays. To illustrate further, I will mention a few of the more advanced successful diagnostic demonstrations, namely: Diseases of the oesophagus, tuberculosis of the lungs, and in fact nearly all diseases involving the pleural, abdominal, and pelvic viscera. It is a common mistake to suppose that the X-ray is still in its infancy or an experimental stage; for it has been tried in the clinical balance, tested in laboratories, proved by experience, and to-day stands perfected.

It is new to-day only in the sense that the multiplication table is new to every school boy who learns about it for the first time.

The value of the Roentgen ray in determining the nature of certain affections of the oesophagus has been shown by Schworer, who, by this means, was enabled to recognize and outline the seat and position of a dilatation of the oesophagus by means of a tube containing a copper wire which was passed through the oesophagus into the stomach. Through this a second tube was introduced. Into the oesophagus was then poured 30 gm. of bismuth suspended in 300 cubic centimeters of water. Through the fluoroscope a shadow was seen corresponding to the dilated oesophagus in which the presence of the copper wire was plainly recognized, but the outline of the wire was more sharply defined below the diaphragm, where it lay in the stomach.

In regard to the study of the diseases of the lungs and pleura, it may be maintained that whoever does not master the principles of auscultation and percussion, is not fit to comprehend the fluoroscopic and skiagraphic signs. There are conditions in the organs that can be better elicited by the so-called physical method, and others that

can be ascertained only by means of the X-ray. While the rays show small tumors or infiltrated foci that on account of their locality cannot be diagnosed by the old physical methods, they have the disadvantage always of showing the thoracic image; that is, they represent all the shadows of the tissues situated before and behind the diseased area at the same time. In the early stage of tuberculosis of the lungs valuable information can be derived from irradiation. Skiagraphy is of greater value in this connection than the study with the screen. Solidification as well as exudation and calcification can be well demonstrated. The true nature of the various shadows is often better understood. Thus interlobular exudation may be differentiated, the localization of lung abscesses and gangrene of the lungs is simplified by examining in different positions. Abscesses and gangrene of the lungs appear as light circumscribed foci that contrast with the darker shadows of their walls. Pleuritic effusions show a marked opacity through the fluoroscope. The larger the amount of the effusion the greater the degree of the opacity. In pyothorax the opacity is somewhat less complete than in hydrothorax. Especially on the right side the outlines of the liver show a marked contrast to the lower boundary line of the effusion. The inner boundary line of the effusion generally appears convex, but if the patient inspires deeply or if he coughs violently, it loses its convexity and becomes horizontal. By changing the position of the patient, of course, displacement of the effusion is observed accordingly. Uniform transparency above the effusion points to the result of a simple inflammatory process, while constant opacities of an irregular appearance justify a suspicion of a beginning of tuberculosis. As a rule it is found that the area of dullness corresponds to the area of shadow.

MASON COUNTY.

At the regular monthly meeting of the Mason County Medical Society, held in Scottville September 1, 1903, a large number of the physicians were in attendance, and a most profitable evening was passed.

Our annual meeting will be held in Ludington, September 29th, at which time officers will be elected for the ensuing year, and the following programme will be given:

1. Discussion on the "Therapeutic Action of Aconite," by Louis Pelletier, of Ludington.

2. Paper. "Therapeutic Action of the Coal-tar Derivatives," by T. J. Foster, of Scottville; discussed by Swabey, of Ludington.
3. Paper. "The Prevalence and Treatment of Gonorrhea," by M. A. Carroll, of Ludington; discussed by A. D. Kibbee, of Custer.
4. Paper. "Syphilis of the Nervous System," by Lee H. Duguid, of Custer; discussed by A. W. Abbott, of Wesley.

W. C. MARTIN, Secretary.

MISSAUKEE COUNTY.

J. G. Reinberg, McBain, in his address as retiring President, recommends that the meetings of the Society be held quarterly to enable all the members to be in attendance. Speaking of the value of the County Society to its members he refers to a united profession as a safeguard against slander and enmity; advocates a blacklist for dead-beats; and as a safeguard against the evils of the patent medicine business, a law which will require the manufacturer to publish on each container of his patent medicine the ingredients of its composition.

He praises the passage of the Nottingham bill as an example of success attained by perseverance, patience and push; and eulogizes the work done during the year by the State Society in behalf of the organization of the profession of the State.

MONTCALM COUNTY.

The annual meeting of the Montcalm County Medical Society is to be held in the City of Greenville, October, 8, 1903.

PROGRAM.

10.30 a. m.

1. Call to Order by the President.
2. Reading the Minutes of the Last Meeting.
3. Communications and Appointments of Nominating Committee and Reception of New Members.
4. Exhibition of Patients.
5. Report of Secretary and Treasurer.
6. Address of President.
7. Paper—Medical Jurisprudence, C. L. Rarden, Esq.
8. Paper—Climatology in the United States with Reference to Disease of the Respiratory Organs, W. P. Gamber. Discussion led by C. O. Jenison.

9. Paper—Venereal Disease, D. K. Black. Discussion led by L. S. Crotser.
10. Paper—Carcinoma of the Breast, Richard R. Smith, Grand Rapids. Discussion, general.
11. Paper—Neuralgia, J. T. Joslin. Discussion led by W. H. Belknap.
12. Diphtheria, S. S. Ludlum. Discussion led by R. H. Blaisdell.
13. Election of Officers.
14. Miscellaneous Business.
15. Adjournment.

Dear Doctor: It is the desire of this county society to enroll in its membership every legally qualified physician in the county.

If you are not now a member, come in and join us, and we will mutually do each other good. The fees are but three dollars a year, and this gives one membership in the State Medical Society also.

This being the annual meeting the fee of three dollars is due from every member.

H. L. BOWER, Secretary.

OFFICERS OF THE SOCIETY.

President—John Avery, Greenville.

First Vice-President—N. E. Bachman, Stanton.

Second Vice-President—F. R. Blanchard, Lakeview.

Third Vice-President—G. A. Stanton, Belding.

Fourth Vice-President—L. S. Crotser, Edmore.

Secretary and Treasurer—H. L. Bower, Greenville.

O. M., C. O., R. O. COUNTIES.

The O. M., C. O., R. O. Counties Medical Society held its regular meeting at West Branch, Aug. 26. Meeting called to order by the President, Stanley N. Insley, and after disposing of the usual business, officers were elected for the ensuing year, to wit: Stanley N. Insley, President, Grayling; C. H. O'Neil, Vice-President, Frederic; Clifford C. Curnalia, Secretary, Roscommon; H. B. Kiehle, Treasurer, Rose City.

After the election of officers the discussion of clinical work was taken up, after which the meeting was closed in due form. After the close of the meeting a social session was held in the rooms of the West Branch Social Club.

CLIFFORD C. CURNALIA, Secretary.

OAKLAND COUNTY.

The annual meeting of the Oakland County Medical Society was held at Pontiac on the 9th of September. It happened that the date for the meeting came on one of the days of

the State Fair, and it was thought best to have simply a business meeting at that time and elect officers for the ensuing year. List of officers:

President—D. W. C. Wade, Holly.

Vice-President—J. J. Moore, Farmington.

Secretary-Treasurer—Wm. McCarroll, Pontiac.

Members of the Board of Directors—E. A. Christian, M. W. Gray, N. B. Colvin, Pontiac.

W. McCARROLL, Secretary.

WAYNE COUNTY.

PROGRAM FOR SEPTEMBER, 1903.

Sept. 3.—Inaugural meeting. Installation of officers. President's address, "Principles of Medical Ethics," by F. B. Tibbals. After the meeting the Society was entertained by the retiring president, F. B. Tibbals.

Sept. 10.—Memorial meetings for the late G. P. Andrews, Donald Maclean and G. B. Russel. Memorial addresses delivered by Leartus Connor, F. B. Tibbals and Delos L. Parker.

Sept. 17.—TETANUS.—Etiology, Diagnosis, Prognosis and Surgical Therapeutics, H. O. Walker.

Bacteriology, Serum-therapy with Animal Demonstrations, E. M. Houghton.

Discussion. Angus McLean, F. J. McHugh and Joseph Süß.

Sept. 24.—Deductions Based on Fifty Fatal Cases of Laryngeal Diphtheria, B. R. Shurly.

Discussion: Willis S. Anderson, J. P. O'Dwyer and D. A. Campbell.

G. L. CONNOR, Secretary.

THE PRINCIPLES OF MEDICAL ETHICS.

F. B. Tibbals, Detroit: In his presidential address first calls attention to the large number of physicians, of students and of medical colleges; and blames for this overproduction lax medical laws, which encourage incompetency by low requirements for practice; and the rapid multiplication of medical schools of low grade. The outlook, however, he considers brighter, because many of the states will soon enforce both preliminary education and sound medical training. To meet these increased requirements the cost of medical education for both schools and students will be greatly increased and only the well endowed and well equipped schools will survive.

He lays down the well-known principles of medical ethics as recently promulgated by the American Medical Association. He urges for even greater liberality of thought in our attitude toward sectarianism and would admit to the

membership of our County Societies the well-qualified sectarian.

He decries advertising in any form as unethical, in poor taste and unnecessary to success and would advocate the establishment of a Press Committee in each County Society whose duty it shall be to prepare articles for the local press on timely medical topics regarding which the public is uninformed, and edit such medical copy as shall be submitted to them by the press, such articles to be signed simply "The Press Committee." He believes such articles, which would be accurate and trustworthy and would bear the name of no individual, would meet no ethical objection.

MEMORIAL MEETING.

BY LEARTUS CONNOR, DETROIT.*

GEORGE P. ANDREWS, APRIL 9TH, 1838; MAY, 1903.

These dates mark the birth and death of a noble and most lovable man—one who attracted all and repelled none. Dr. Andrews was born at Kailua, on the isle of Hawaii. His father, the late Dr. Seth L. Andrews, of Romeo, Michigan, was a medical missionary in the Sandwich Islands from 1837 to 1849, when failing health compelled his return to the United States. Thus Dr. George was born and spent the first twelve years of his life on the Sandwich Islands.

In common with other missionaries to that region and in that period, his parents suffered great hardships, so as to markedly reduce their own vigor and dwarf the physical development of their children. Food, such as they had been accustomed to, could be secured only at long intervals and in meager quantities—while native food was to them entirely inadequate. Besides the confinement of women and children, necessitated by the licentious habits of the natives, was a great obstacle to appropriating that which was available. Dr. A. B. Lyons, also a son of a Hawaiian missionary, and a keen student of anthropology in the Islands, says that the careers of missionary children bore a direct relation to their feeding and exercise in childhood. Heredity being eliminated by the careful selection of sound missionaries and their wives—the difference in succeeding crops of children could be definitely located in the two factors of feeding and exercise.

The limited physical vigor of Dr. Andrews unquestionably exerted a vast influence upon his career. It debarred him from attempting either physical or mental tasks demanding extraordinary resources of physical vigor; it made the rigors of

*Read before the Wayne County Medical Society Sept. 10, 1903.

Michigan climate peculiarly trying, so when warned of ebbing vitality, he sought refuge under the sunny skies and in the balmy air of his native isle in the Pacific.

He prepared for Yale College at Andover Academy, but health forbade his taking a college course. Later he began the study of medicine at Chicago Medical College, where his uncle, Edmund Andrews, was professor of surgery. Later still, he entered the College of Physicians and Surgeons of New York, whence he graduated in 1861. His academic and professional student careers were marked by the highest excellence in both manhood and scholarship.

Coming to Detroit shortly thereafter, he became assistant surgeon at the Government Hospital on Woodward Avenue, through the site of which Martin Place now runs, continuing there till the close of the war. He took an active part in shaping the medical history of Detroit during the formative period which followed his locating therein. Thus, in 1886, in conjunction with Drs. Theo. A. McGraw, Edward W. Jenks and Samuel P. Duffield, he founded the "Detroit Review of Medicine and Pharmacy," which, under various names, but with the same object, lived till 1894, and exerted a profound, though quiet, influence in moulding medical men and affairs. He ceased editorial activity in 1871, transferring the Review to other hands, though he long contributed to its pages. Of his helpfulness to his successors in all possible ways, the writer can abundantly testify.

In 1866 he was one of the charter members of the Michigan State Medical Society, and continued in active service therein while a resident in the United States. The stormy sessions of its earlier years were repugnant to his quiet tastes, but his good judgment, and faithful support of his friends did much for the betterment of the profession through the society. None rejoiced more than he at its recent evolution by which it is destined to unite in harmonious activity every physician in Michigan for the common interests of all and the advancement of medicine.

Dr. Andrews was prominent in the movement which established the Detroit Medical College in 1868, and secured for it the clinical material of Harper's and St. Mary's Hospitals and founded the outdoor clinics in connection therewith. As teacher of practice of medicine till 1881, he exerted a profound influence upon the lives of his students, and through them upon the profession. He was a clear thinker and exact speaker, with rare discrimination of what should be emphasized and what omitted. His method of unfolding the intricacies of clinical cases and his kindly, yet forceful manner were an inspiration to every

student. Being a model general practitioner, he was a living lesson of medical ethics and professional manners.

Dr. Andrews was one of the founders of the Children's Free Hospital and continued in its service till removal from the city. Here, as well as at Harper's and St. Mary's Hospitals, there still linger traditions of his native shrewdness, keen analysis of cases, devotion to and kindly management of patients, telling of a large manhood, unusual professional attainment, and exceptional skill.

With the opening of the third period in the development of the Wayne County Medical Society, in 1866, Dr. Andrews was present to do his part, and continued till the close of this period, in 1876, when, with his associates, he gave his energies to the founding of the Medical and Library Association.

He was a charter member of the Detroit Academy of Medicine, founded in 1868, and actively promoted its interests while a resident in Detroit. During 1876-77 he was its president. His annual address was a model of scientific scholarship, while his numerous papers, read before this society, exhibit a large storehouse of facts, and a rare facility of massing them in support of his views. Dr. Andrews was an omnivorous student, well versed in literature, art, philosophy, history, poetry, and all branches of natural science. For his time, he was an expert in the use of the microscope, using it to unravel intricate cases and to peer deep into the unknown. A botanist of more than average attainment, he for years maintained a hothouse for the growth of rare and interesting plants—taking pleasure therein, as other physicians did in hunting, fishing or fine horses.

His studies of oriental rugs, etchings, pottery, and a host of similar things occupied niches of time left from professional engagements, and better fitted him to understand the lives and minister to the needs of a large class of his patients.

Politically a republican, he was interested in the best interests of the city, state and county, but he never took an active part in any of the struggles of politicians—in their endeavors to benefit themselves at the expense of others.

In early life he became a member of the Congregational church, and though unostentatious, both in his beliefs and their manifestation, he was universally held in high esteem for his practical Christian character, overflowing in kindly words and helpful deeds to all with whom he came in contact.

Soon after graduating he married Miss Sarah Dyar, of Romeo, Mich., who, with one daughter, Miss Winifred, survives him. One son and one daughter died in early childhood, to the lasting

sorrow of their parents. Dr. Andrews' family life was singularly happy, so that no person ever detected a shadow crossing its threshold, in spite of the numerous trials and disappointments which beset its career.

To his friends—and all who ever knew Dr. George P. Andrews became his friends—he was uniformly instructive without being pedantic and singularly faithful; once his friend always his friend. To such he had the rare faculty of being able to tell their faults so as to secure the desired result, not only without giving offense, but actually intensifying their friendship.

For a time he was professionally associated with Dr. Morse Stewart, and later with Dr. N. D. Stebbins. The latter took great delight in promoting Dr. Andrews' interests and commending him to his own friends and former patients. Dr. James F. Noyes induced him to remove from the corner of Congress and Shelby to the corner of Fort and Shelby, and ever after classed him among his closest friends, to their mutual benefit.

The writer has occasion to remember him as the first doctor he met after coming to Detroit, and as the truest friend of his professional life. After an inside knowledge of him for more than thirty years, he can truthfully affirm that there never lived a better physician, a truer man, or nobler friend. As he had been helped he delighted to help others, and heartily rejoiced in their success. Envy, jealousy, evil speaking, uncharitable judgments, and those other nameless traits that separate physicians from each other and cause scenes over which angels weep, were as far from him as the east is from the west.

When shadows crossed his path, when death desolated his home, when misfortune depleted his finances, and ill-health claimed him as its victim, he was never known to repine or reproach either man or Maker.

From various causes, ill-health restricted his activity, till 1890, when he removed to the Sandwich Islands. For a time this availed to enable him to serve a large and increasing clientele, but undue exposure and overwork again threw him to earth. Extensive travel, and sojourn at famous sanitariums with the skill of celebrated specialists, failed to restore vigorous health. Now, conscious that long years of disability and suffering awaited him, he took up the burden of life, qualified himself for a portion of practice more in accord with his physical limitations, and continued the unequal struggle till, suddenly, his heart ceased to beat and his spirit flew to the land of unalloyed health.

Except for the starvation of his mother anterior to his birth and himself during infancy and childhood, Dr. George P. Andrews would be following

the example of his uncle, Edmund Andrews, in wide, diversified scholarship, clean-cut, wholesome manhood and professional eminence these many years and have escaped the agonies of more than a decade of constant suffering. That he accomplished so much along such varied activities all who came within the range of his activities were devoutly thankful.

It is a perpetual benediction to have known a character so pure, a life of such combined strength and gentleness; a physician so learned, and eager in the pursuit of new truth, so skillful, patient and unfaltering to the highest ideals inherited from the past, realized in the present, or hoped for in the future.

RESOLUTIONS ADOPTED BY THE WAYNE CO. MEDICAL SOCIETY.

WHEREAS, Death has removed from earth Dr. George P. Andrews, a charter member of the Second Wayne County Medical Society,

WHEREAS, Dr. Andrews, during three decades of residence in Detroit, endeared himself to his colleagues by a marked exemplar life,

WHEREAS, He was active in all enterprises for advancing professional attainment and honor—as the founding of Harper and the Children's Hospitals—of the Detroit Review of Medicine and Pharmacy, and the Detroit Medical College,

WHEREAS, He was not only active for a decade in the Wayne County Medical Society, but was a charter member of the third evolution of the Michigan State Society, of the Detroit Medical and Library Association and Detroit Academy of Medicine,

WHEREAS, He was for many years a teacher of Practice in the Detroit Medical College, and always a contributor of sound medicine to medical journals, thus building his life into the lives of the coming profession,

Resolved, That we express our appreciation of the noble manhood, high professional attainment and superb record of our departed colleague.

Resolved, That we tender our heartfelt sympathy to his bereaved family.

Resolved, That these resolutions be spread upon the minutes of the Society and a copy be sent to the family and Journals.

—
DONALD MACLEAN, 1839-1903.

I wish to speak, not so much biographically, as from the standpoint of the personal characteristics of the man, whom all of us knew and many of us loved.

His father, though blind from the age of 15, went through Edinburgh University with the aid of a private tutor, fitted for his chosen

profession, the ministry, only to be refused license to practice because of his disability, yet with indomitable will, he emigrated to the then wilds of Canada, where, on December 4, 1839, Donald was born, the oldest boy of eight children. His father's physical handicap early made the boy more like a parent than an elder brother to the younger brothers and sisters, who looked to him always for advice, comfort, succor and support. This strong heredity, strengthened by infirmity, made the son manly, self-reliant, tender-hearted and courteous. His preliminary education was obtained jointly in Canada and Edinburgh, where, in 1862, he graduated in medicine, soon coming to this country for a year or two as acting assistant surgeon, U. S. A. In 1864, when but 25 years of age, he was appointed professor of surgery at Queen's University, Kingston, Ontario, coming to Michigan in 1872, to occupy the same chair at Michigan University, where he taught and operated for 17 years, resigning in 1889 on account of a disagreement with the regents concerning the feasibility of maintaining the clinical part of the school in Detroit. He was highly honored by his profession, being elected president of the State Medical Society in 1884; Detroit Medical Library Association in 1887, and the American Medical Association in 1894.

As a general surgeon he had few superiors, and not a large number of equals. His anatomical knowledge, gained in the rigid school of Edinburgh, combined with a natural technique, made him the ideal operator—bold and skillful, quick, yet careful. As a favorite pupil and assistant of Syme, he acquired great dexterity in the operations which made Syme famous, amputations, resections and lithotomies, and while he perhaps failed to grasp the refinement of technique of the more modern abdominal specialist, still, in the main, few could surpass him in the dramatic rapidity of his work and the safety of his patient.

As a teacher, he stamped his magnetic personality in indelible characters upon the surgery of the middle west, and hardly a village or city between the Ohio and the Rockies but contains a surgeon whose proud boast it is that Donald Maclean gave him his surgical inspiration. He was a ready writer, a forceful speaker, a deep thinker, a lover of literature and the poets, and though professedly an agnostic, keenly alive to the beauties and teachings of the Bible. He loved nature and all her offspring, the woods and flowers, the birds and animals, and best of all, the children and the children of but a larger growth his fellow men. His great big heart was full of love and tenderness, and sorrow, pain, care and suffering, physical or mental, found in him al-

ways a sympathetic, helpful friend. Generous, too generous for his own good, he loaned or gave away thousands of dollars and even the "bummer" never left his door empty handed.

Professionally, he was the soul of honor, abhorring quackery and charlatanism, protecting always the brother practitioner and dealing honestly with all his patients, regardless of financial considerations.

The medical controversies of the old days found him ever in the thick of the fight, but he always fought in the open, and though a strong and valiant foe, was quick to acknowledge error if in the wrong. To his friends he was the best of friends, particularly kind to the younger men, and many of us will cherish as lifelong memories his helping hand, and the mantle of professional charity laid tenderly and lovingly over our errors of omission and commission.

In recent years his health was broken by family sorrow and financial losses, and in some ways he fell mentally and physically below the standard of the old "Mac—," who, in his prime stood upon the top of the professional ladder, honored alike by doctors and laymen, with a hand ever ready to assist the man below.

Let us remember him as in those happy days when his stalwart form, strong, but kindly face, massive brain and tender heart were loved by most of us and esteemed by all.

FRANK BURR TIBBALS.

RESOLUTIONS ADOPTED BY THE WAYNE CO. MEDICAL SOCIETY.

WHEREAS, Donald Maclean, intellectually a giant, professionally an honest man, socially the most lovable of men, and, as a surgeon and teacher of surgery, a magnetic inspiration to the developing surgery of the middle west, passed from our midst July 24, 1903.

Resolved, That we mourn his loss and will long cherish the memory of his surgical knowledge, his professional probity, his kindly heart and genial nature.

—
GEORGE B. RUSSEL, M. D.

Dr. George B. Russel, a member of the Wayne County Medical Society, dean of the medical profession of this vicinity and for sixty-seven years a prominent citizen of Detroit, died at his home in this city, August 31st, 1903, at the advanced age of 87 years.

Dr. Russel came to Detroit from his native State of Pennsylvania in 1836, the year in which he was graduated from Jefferson Medical College at Philadelphia. Upon his arrival here Dr. Russel found little to suggest the Detroit of today. Instead of a large city, possessed of beautiful

streets, parks and boulevards, and equipped with marvelous systems of transportation, lighting and other utilities, he found a straggling frontier town of some six thousand people, of which he himself later gave an account as follows:

"It had been an old army post. Its main settlers were the French people, in number about four thousand, while the remaining two thousand people were made up of the families of the officers and soldiers of the army, the varied newcomers arriving and passing on in search of new homes further west, and the mechanics and artisans needed in such a population, for the French were all hunters, farmers, fishers and gatherers of furs. * * * I was in Detroit ten years before the roads were in a condition fit to drive a horse and vehicle over."

Into such a field, already occupied by twenty-two physicians, came Dr. Russel to work out his career.

To any of us giving thought to the matter it is clearly apparent that success could be attained under circumstances such as these only by those endowed with unusual strength, both mental and physical. Dr. Russel, however, found himself equal to the demands of the situation.

While still young his father had placed him under the care of the most able teachers of his native state. Among these was Dr. Daniel Fuller, whom Dr. Russel used to speak of as "the lawyer, the doctor, the wise man, called the Socrates of America, who knew everything and some things besides." After a full college course, in which instruction in the classical languages formed a prominent part, the future doctor matriculated at Jefferson Medical College, from which he was graduated, as has already been said, in 1836.

Some years before entering Jefferson College, Mr. Russel, as he then was, had decided upon a medical career for himself, and had spent considerable time in the offices of Drs. Humes and John L. Atlee, at Lancaster, Pa. Thus, at the outset of his medical studies, he had the advantage of being under the direction of the best medical talent of his day. Afterward, while at college, his good fortune in this respect continued. For there he received instruction from Drs. George McClellan, a leading surgeon; Patterson, an authority on the anatomy of the brain, and Riviere, a prominent and skillful practitioner in medicine. As a result of these courses of education, Dr. Russel entered upon the practice of his profession with a mind as well drilled in the intricacies of his art as the best instruction the country could secure.

In addition to the attainments just mentioned, Dr. Russel was fortunate in possessing natural qualifications that rendered him particularly well

qualified to meet the demands and exactions of an arduous profession.

Of these a keen sense of humor was not the least important. Dismal, indeed, had to be his surroundings, and gloomy the outlook when Dr. Russel couldn't detect somewhere a ray of color, and, having found it, bring it to the notice of his companions by means of an apt quotation from Horace, Shakespeare or other favorite author.

The soundness of his mind was equaled also by the soundness of his body. Tall, strong, muscular and healthy, with the health of sturdy Scotch and Irish stock, he possessed physical powers that for years overcame hardships and survived tests of endurance, that otherwise must have greatly restricted his extended field of endeavor.

With this fine equipment Dr. Russel, at the age of twenty, entered upon the practice of general medicine in what is now the great city of Detroit.

As said above, this was in 1836. Once here, Dr. Russel had not long to wait for work. Within one year from the time of his arrival he found himself in the possession of one of the largest practices in Michigan. This he looked after in the double capacity of village practitioner and country doctor in combination. Indeed, the duties connected with the latter calling for many years far surpassed in importance those connected with the former. For besides his village practice, Dr. Russel had a horseback circuit that extended on the Canadian side of the river from Amherstburg to Belle View, eighteen miles above Windsor, and on this side from Trenton to Lake St. Clair, as well as on the Gratiot road to Mt. Clemens and Romeo, the Woodward road to Royal Oak, Birmingham and Pontiac, Grand River to Farmington and Michigan avenue to Dearborn and Wayne.

Of the diseases that prevailed to the greatest extent during the period extending from the 30's to the 60's, Dr. Russel found malaria, typhoid fever and abdominal diseases the most prevalent and of more frequent occurrence than was the case later on.

Epidemics of contagious and infectious diseases also were more frequently met with in the early years of Dr. Russel's practice than at a later period.

During three years, from 1837 to 1840, smallpox raged and epidemics of cholera existed in 1849, 1852 and 1854. Of his experiences in connection with these diseases, Dr. Russel could have filled many volumes had he taken the pains to write them down. He used to say his teachings and experiences had led him to have no more personal fear of cholera than he had of tertian ague, and

also that they had enabled him to cure the former about as readily as he did the latter.

During the smallpox epidemic, spoken of above, Dr. Russel erected, at his own expense, a temporary hospital on the site of the house of correction, where he cared for many sufferers with this disease.

During this same epidemic there occurred an incident in his practice to which, in after years, he frequently referred to with justifiable pride. Hearing that smallpox had broken out among a band of Indians camped on Connor's Creek, a few miles northeast of the city, he at once visited the place, and with the aid of Mr. Richard Connor, who died a short time ago, and sister, Therese, he vaccinated 700 Indians in twenty-four hours, and so successfully did he perform this task that not one of those exposed to the contagion contracted the disease.

Later the government sent him a check for \$700 in recognition of the great service he had rendered its helpless wards.

Dr. Russel had not been long in practice in Detroit before the need of better facilities for the care of the sick than the place then afforded, forced itself upon his attention. With characteristic energy he no sooner appreciated this condition of affairs, than he set about to remedy it. This he accomplished by inducing Mr. Harper and Nancy Martin to found Harper Hospital and then by serving as chief medical officer of this institution for a continuous period of twenty-five years.

For twenty-seven years Dr. Russel devoted all his energies to the care of his large practice. Afterward he turned his attention to a great extent, to the development and conduct of various industrial enterprises.

He did not, however, lose touch with the profession. To use his own words, "There remained for me the care of a large family, many relatives and friends, and the poor among the host of my employees. These have all given me daily work and experience."

In May of the present year the Wayne County Medical Society held a banquet in honor of the three oldest practitioners within its ranks. These were referred to at the time as the Nestors of the medical profession of Detroit and included Dr. Russel, Dr. Morse Stewart and Dr. Herman Kiefer. Each of these gentlemen on this occasion favored the large gathering of doctors present with some account of his medical life and experiences. These were all most interesting.

Dr. Russel's address was under the title 'Sixty-seven Years of General Practice, with Some Reminiscences of the Giants of the Profession Half a Century Ago.'

In this paper Dr. Russel discussed men—his instructors in medicine and his contemporaries in the profession, and events connected with them and himself. Throughout his references to his confreres were most kindly. And these, and other references, not of a personal nature, were chosen with such discrimination and attention to detail that his hearers were at a loss to know which they admired the more—the keenness of the old doctor's powers of observation, or the perfection of his memory.

A most interesting feature of the paper was the statement that when Dr. Russel attended Jefferson College the professors of this venerable institution of learning were giving instruction in accordance with the French school of medicine, as set forth by Bichat, Andral, Richerand, Laennec, Corvisart, Dupuytren, and particularly Broussais, a school that abandoned, to a great extent, the heroic in the administration of drugs and extolled the importance of a regulation of the diet in the treatment of disease.

These teachings, so in accord with those of today, were thoroughly assimilated by Dr. Russel and, as he himself often asserted, had much to do with the success he attained in his practice.

Lack of time forbids an extended quotation from this address. It must be said, however, that it not only brought pleasure and instruction to those who had the good fortune to hear it, but what is of greater importance, if furnished at the time and will continue to furnish a permanent record of a portion of the medical history of Michigan which to the future historian will prove invaluable.

In closing, the paper just referred to, Dr. Russel used the following words:

"Before the accident which disabled me sadly (an injury to his hip from a fall) and which occurred six years ago, during my eighty-second year, then in the prime of life, I had booked me to live until I was a hundred years old, and then, when the end came, to fall as the leaves fall with the first frosts of October, or like ripe fruit, drop into the lap of Mother Earth, or like Holmes' 'One Horse Shay at the end of a hundred years, all at once, fall into a heap of dust.'

"But now I feel that I must discount this estimate somewhat, for if the downward pace is quickened in the years to come as has been the case in the last year, I cannot book me to stay with you all of the twelve years more before I shuffle off this mortal coil."

Dr. Russel's address was under the title, "Sixty-seven Years of General Practice, with Some Reminiscences of the Giants of the Profession Half a Century Ago." The doctor's limit of life under ordinary circumstances was left undetermined through an unfortunate accident. On August 24, 1903, while standing at a street corner waiting for a car, he was

struck by a bicycle and thrown to the pavement. Before he could rise a passing wagon ran over his arm and shoulder. The doctor was at once taken to his home where an examination revealed many bruises and cuts, but no broken bones. The shock, however, resulting from this double accident was more than the old doctor accident he sank quietly to his long rest.

DELOS L. PARKER.

RESOLUTIONS ADOPTED BY THE WAYNE CO. MEDICAL SOCIETY.

WHEREAS, Death has removed from our midst our late fellow-member, Dr. George B. Russel, and,

WHEREAS, From the time he entered the medical profession up to the time of his death, a period of sixty-seven years, Dr. Russel lived continuously in the city of Detroit, and left the impress of his influence upon his community and calling, to the great advantage of both; therefore, be it

Resolved, That in the death of Dr. George B. Russel, the Wayne County Medical Society laments the loss of a member whose long life so accorded with the requirements of exalted citizenship, and the best traditions of his chosen profession, that he brought great honor not only to this Society, but also to the profession of medicine as a whole.

Resolved, That the heartfelt sympathy of this society be extended to his family in their affliction.

Resolved, That these resolutions be published in the Journal of the Michigan State Medical Society and a copy forwarded to the family of our departed friend by the Secretary of this Society.

CHANGES IN MEMBERSHIP.

Aug. 15th to Sept. 15th.

NEW MEMBERS.

J. S. Edwards, Grand Rapids.
F. J. Hackney, Lupton.
F. N. Henry, 1444 Michigan Avenue, Detroit.
S. E. Kerby, Battle Creek.
H. E. Locher, Grand Rapids.
F. S. Love, West Branch.
B. W. Pasternacki, 254 Canfield Avenue, East, Detroit.
C. E. Patterson, Grand Rapids.
E. M. Payne, Grand Ledge.
J. R. Rogers, Grand Rapids.
L. S. Town, Geneva.

CHANGE OF ADDRESS.

J. R. C. Carter to Rudyard, Mich.
C. S. Hosmer to Portland, Oregon.

L. C. Jones to Kalamazoo, Mich.
A. S. Kitchen to Escanaba, Mich.
I. G. McGuffin to Hastings, Mich.
J. W. Mitchell to Bridgeport, Mich.
J. B. Rice to Fenton, Mich.
R. H. Steinbach to Richville, Mich.
Vincent Wijetunge to Lansing, Mich.

PERSONAL MENTION.

Dr. A. L. Laing, of Rapid River, will open a private hospital about the first of October.

Dr. A. C. Gillam, who has been located in Escanaba for the past six months, has accepted a mining position in Arizona.

DETROIT CLINICAL LABORATORY.

The Detroit Clinical Laboratory staff will give a series of lectures with demonstrations upon the Application of Modern Laboratory Methods in Diagnosis. The lectures will be given Tuesday, Wednesday and Friday evenings of each week, at 8:30 o'clock sharp, in the Detroit Clinical laboratory, 33 Mullett street. Cards will be issued for \$5.00 entitling the holder to attend the full course. Physicians wishing to avail themselves of the opportunity should register at once, as the course must necessarily be limited in numbers.

SYNOPSIS OF LECTURES.

Radiography, Preston M. Hickey.

Tuesday, September 1st.—Theory of the Roentgen Ray; Methods of production.

Wednesday, September 2nd.—Radiographic Technique.

Friday, September 4th.—Radiographic Anatomy, including development of the skeleton.

Tuesday, September 8th.—Radiography in its relation to surgery.

Wednesday, September 9th.—Radiography in its relation to surgery.

Friday, September 11th.—Radiography in its relation to internal medicine.

Dr. Hickey will demonstrate the radiographic apparatus in use, and illustrate his lectures with a large number of skiagraphs which have been taken at the laboratory.

Hematology, Thaddeus Walker.

Tuesday, September 15th.—Methods and technique of blood examinations.

Wednesday, September 16th.—The Erythrocytes, pathological changes, their classification; Hemoglobin; Color-index.

Friday, September 18th.—The Leucocytes, classification; Leucocytosis; Lymphocytosis; Eosinophilia; Leucopenia.

Tuesday, September 22d.—The Anaemias, Chlorosis, Pernicious, Secondary and Splenic.

Wednesday, September 23d. — Leukaemia; Hodgkin's Disease; Anaemias of Childhood.

Friday, September 25th.—The blood in various diseases—Appendicitis, Typhoid, Pneumonia, Malignant diseases, Malaria, etc.

Dr. Walker will demonstrate the various instruments used, show blood specimens under microscopes and illustrate the subjects with charts.

Pathology, Heneage Gibbes.

Tuesday, September 29th.—Inflammation.

Wednesday, September 30th.—Diseases of the lungs.

Friday, October 2d.—Diseases of the kidneys.

Tuesday, October 6th.—Neoplasms.

Wednesday, October 7th.—Neoplasms.

Friday, October 9th.—The female generative organs.

Dr. Gibbes will illustrate his lectures with charts, drawings and microscopical slides.

Bacteriology, Joseph Sill.

Tuesday, October 13th.—Bacteria, their morphology and biology; their culture and examination.

Wednesday, October 14th.—Infection; Immunity.

Friday, October 16th.—Causative agents of inflammation and suppuration.

Tuesday, October 20th.—Diseases of bacterial origin, Typhoid, Cholera, Plague, Diphtheria, Tetanus.

Wednesday, October 21st.—Tuberculosis, Influenza, Gonorrhea, etc.

Friday, October 23d.—Serum reactions.

Dr. Sill will demonstrate the apparatus used in his work, and also exhibit the different bacteria in culture and under the microscope.

DEPARTMENT OF HEALTH.

CITY OF PORT HURON, MICH.

REPORT OF VITAL STATISTICS for the Month of August, 1903.

CAUSES OF DEATH

Paralysis.....	3
Spasm of Glottis.....	1
Heart Disease.....	1
Carcinoma of Stomach.....	1
Arterio Sclerosis.....	1
Pernicious Anaemia.....	1
Anasarca (general).....	1
Cholera Infantum.....	2

Intussusception of Bowels.....	1
Dysentery (acute).....	1
Bright's Disease.....	1
Parenchymatous Nephritis.....	1
Sarcoma.....	1
Alcoholism.....	1
Old Age.....	1
Still Birth.....	3

CONTAGIOUS DISEASES REPORTED DURING MONTH

Typhoid Fever.....	1
Consumption.....	0
Measles.....	0
Diphtheria.....	1
Scarlet Fever.....	0
Smallpox.....	2
Whooping Cough.....	0
Chicken Pox.....	0

CONTAGIOUS DISEASES REMAINING ON HAND AT END OF MONTH

Typhoid Fever.....	1
Consumption.....	3
Diphtheria.....	0
Scarlet Fever.....	0
Measles.....	0
Smallpox.....	0
Chicken Pox.....	0

A. H. COTE, M. D., Health Officer.

A YEAR'S EXPERIENCE IN ORGANIZATION IN MICHIGAN.

LEARTUS CONNOR, M. D., DETROIT.

(Continued from September, 1903, page 418).

Should the councilor fail, his vice-president steps in to awaken him to duty. If he too fails, the president exercises his natural prerogative and stirs each to the desired activity. In Michigan it is expected that the president shall personally visit as many of the branches as possible, make a speech, read a paper, or hold a clinic, and in general use his office to increase the activity of the branches. Our late president set the pace for his successors in this direction.

Experience taught the councilor, when striving to organize or vivify a branch, that success followed a diversion from local quarrels and disputes to broader and larger questions affecting state or national interests. Fired with a larger thought, personal interests quietly dropped into their natural relationships. By such a method the writer has often seen a discordant group transformed, within an hour, into a smiling band of co-workers, ready to do and dare for the larger idea, that which its success demanded. In fact, the largest returns from organization spring directly from this law—as the organizers go out of themselves to help others their true selves come

into view—selves that make for all that is best in the profession, in manhood and citizenship.

The council's report showed that last September it started a journal, under the management of the secretary-editor, which had succeeded beyond expectations, in awakening and continuing interest among the branches, and its future looks very promising. The same report showed that experience was teaching the council how to secure increasingly large returns from the funds at its disposal, and how to adjust the difficulties between individuals or branches for the common good.

Intelligent work, persistent and helpful to every physician in the state, is the secret of such success as has obtained in Michigan. To this end most of the officers of last year were re-elected, and the outcome demonstrates the wisdom of the act. The fundamental platform of modern organization is the selection of officers for their known fitness and ability, to serve, not as figure-heads or little gods.

The power of seventeen hundred united physicians in Michigan, as compared with that of five hundred discordant ones, has indicated itself in many ways.

(1) It has given a self-confidence to the Michigan profession heretofore unfelt in its ability to help its members, the outside profession and the people. (2) It has spoken to the legislature and secured a more respectful answer, because it had votes, and because the chances were greater, that it expressed larger truth. (3) As six hundred members gathered in Detroit at its late meeting, the laity saw a vast concourse of physicians clearly trusting each other. It reasoned that if these learned men so evidently trust each other, we may trust them, so the people as rulers of the land had a lesson that the new profession, with modern organization, is certain to develop a profession in which "he that is greatest is servant of all."

LEARTUS CONNOR, A.B., M.D.,

Chairman Council Michigan State Medical Society.

A NEW AND VALUABLE HYPNOTIC.

The manufacture of new soporific medicines has not always been justified by the results, but some unusual virtues may be discerned in a recent synthetic production, veronal. This preparation, first described by E. Fischer* and J. von Mering,† is one of a series of compounds of urea; its chemical

name is diethylmalonylurea, a designation which reveals a relationship to other hypnotics. In many of its properties it resembles trional, and all the evidence shows that it effects its work without changing the character of the blood or causing any disturbance of the respiratory function. In addition, it seems to have a considerable range of action, being useful in ordinary sleeplessness and meeting with a tolerable degree of certainty the more violent resistance of hysterical psychoses and acute mania.

These merits, considering the disappointing results we have had with new hypnotics, make veronal an object worth study and careful observation. Not being a proprietary or costly article, it has not the objections to its use that have some other remedies of the same kind, which, it is just to say, would find their good qualities acknowledged if it were not for their prohibitive price and commercial significance.

Veronal, we observe, has been used alone—uncombined with any other hypnotic—but it is far more effective in combination. W. Fischer and Poly, in their published reports of its clinical effects, have administered it in doses of half a gramme to a gramme without the aid or association of another drug of similar nature. That, singly, it should have done such good service in so many varied cases is sufficiently expressive of its claims to consideration. It should be remembered, however, that veronal, like many other products of modern chemistry, is a highly complex substance with numerous chemical ramifications. On these grounds, as well as on physiological and on that of a similarity of physical properties, we consider it as perhaps the best illustration of a valuable principle—nowhere more effective than in the class of soporifics—of combining two of these agents with powers supplementary of each other.

We venture to say that this principle—long known—has been too negligently observed by physicians. As an example, in the sphere of modern hypnotics, we do not know of a more certain and effective combination than that of trional and sulphonal, in the proportion of one to two, precisely because these two reinforce each other. In the whole range of therapeutics there is probably no more powerful and trustworthy aid in an extremity than the old combination of bromide, chloral, and opium (Brunton), but unfortunately there are grave objections to its general use. In the case, however, of such a union as veronal and trional these obvious objections do not present themselves, and, we think, these two drugs will appeal to the minds of our readers as logical allies, capable of producing better results together than either used alone. In fact, from the experi-

*E. Fischer and J. von Mering, *Die Therapie der Gegenwart*, March, 1903.

†W. Fischer, *Therapeutische Monatshefte*, August, 1903.

ence at hand, we entertain little doubt of the utility of combining veronal and trional in the proportion of two to one. Both have a cumulative action, which shows itself in a gentle and continuous somnolence, without any toxic appearances; the remedial effects of this drowsiness are, in many cases, inestimable. We advise the taking advantage of this property by beginning with a full dose, ten grains of veronal to five of trional, and continuing with smaller doses when the cumulative action appears. It would be rash to say that this forms an ideal hypnotic, but we believe without hesitation that it brings us a step nearer the goal of that desirable fruition.

ROBERTS BARTHOLOW.

Editorial, N. Y. Med. and Phila. Med. Jrn., for Sept. 19, 1903

MEDICAL ORGANIZATION.

Extract from paper by Dr. J. N. McCormack, Journal American Medical Association, Sept. 19, 1903.

SMALL AND SPARSELY SETTLED COUNTIES.

To most physicians the glamor of numbers, of a crowd, of elaborate papers and sonorous discussions is always associated with the idea of a successful medical society. Next to the conviction that physicians can not live together in peace, it will be the most difficult of the misconceptions councilors will have to combat. Yet nothing could be further from the truth. The New York Obstetrical Society, one of the most famous and useful of the older organizations in this country, was limited by its charter to fifteen members. When five, eight or ten congenial medical spirits get together and fail to have an interesting and instructive meeting it is not the fault of those who are absent. One of the most useful societies the writer has ever known was organized by him on a chance visit in a county containing but four physicians. They were torn by the usual wrangles and dissensions, and the profession was at a low ebb. Three of them were comparatively young men, and after getting together in their society, and understanding each other, one after the other in turn went away for post-graduate work, the others dividing his work and giving him the proceeds. One of them had a taste and ability for surgery, and by an equitable and satisfactory arrangement he did that part of the practice, which had formerly been sent away or been done by surgeons called from a distance, at far greater expense and probably no better results, or more frequently the cases were left to suffer and die without attempt at relief. Under better business methods a large element in the community which had found it cheaper to change physicians than to

settle their accounts, although abundantly able to do so, were induced to contribute their part to such a support of the profession as enabled its members to qualify and equip themselves for the benefit of these as well as their more honest neighbors. This society was as much a blessing to the people of that community as to the profession, and organized and conducted in the proper spirit this will always be true. Of course, much must be left to the discretion of the councilor after he has informed himself as to the conditions by conference with the physicians in such counties, but where as many as three, four or five fairly young, live men can be found it will be better for them to get together and maintain a separate organization. If they can be made to understand it and each other it is a question whether the individual benefits will not be even greater than will come to those of the more densely populated counties.

CONCLUSION.

The Association plan is almost perfect in its conception, scope and purposes, and yet it is believed to be entirely practical. Changes in detail may be required as the work progresses in the various states to adapt it to changed conditions, but these can be easily made. How far its benefits are to be extended to any particular county or state must be determined by its own profession, assisted by every possible influence from the outside when needed. To say that much time and increasing effort will be required to perfect such an organization, that many obstacles will be encountered, and that individuals will fail to do their duty or obstruct the work, is only to say that the undertaking is a vast one, that the agencies relied on are finite and that it is subject to the vicissitudes attending all human endeavor. Our contention is that it is worth all the time, labor and money it will cost, and more. Ours is rapidly becoming a great science. Our leaders are among the greatest of living men. With proper ideals kept constantly before our young men, and the present facilities for attaining them unknown to any other age, and impossible even to the older men of the present generation, with harmony and co-operation made possible and encouraged everywhere, and all supported by a public confidence inevitable because it will be deserved, everything desirable will be brought within reach of the profession. The vexed problem of medical education can then be taken up with confidence and justly and wisely solved. The question of reciprocity in licensure and membership between the states can be settled on some safe and equitable basis. Provision for continuous scientific research and for systematic collective investigation into the causes and prevalence of disease can be made on

the broad and generous lines demanded by the great interests involved. Constructive statesmanship can be substituted for the narrow, time-serving political methods of the present in municipal, state and national public health affairs, and our profession, united, educated and ennobled, will then occupy its rightful place as one of the greatest powers for the protection and elevation of the race.

Communications.

Mackinac Island, Mich., Aug. 27, 1903.

A. P. Biddle, Sec. Michigan State Medical Society, Detroit, Mich. :

Dear Doctor: I have the honor to acknowledge receipt of your notification of my election as honorary member of the State Medical Society, and desire to officially inform the members how greatly I appreciate the compliment.

Very respectfully, JOHN R. BAILEY.

Book Notices.

CONTRIBUTIONS TO MEDICAL RESEARCH, dedicated to Victor Clarence Vaughan by colleagues and former students of the Department of Medicine and Surgery of the University of Michigan, on the twenty-fifth anniversary of his doctorate.—Ann Arbor, Michigan. George Wahr, publisher, 1903, pp. 620.

'Tis a pleasant custom which induces the friends of an individual to place a mark in his book of life as he turns the page at notable periods. The marks are of various kinds, in this they chose to make it a large and sumptuous book written by themselves on topics with which they are familiar, recording some new things which studies beyond known boundaries brought to their consciousness. These friends tunnelled farther into the mountain of truth and found nuggets of more or less value which they bring to Dr. Vaughan as their token of their esteem.

It may not be that all these researches present new truth capable of standing the cross-examination of other workers in the same field, but all have the common spirit, and we shall hope, the ability to hold their own against all combatants.

Nearly every field of medicine and surgery is touched at some point; surgery, general and special; medicine, general and special; anatomy, general and special; physiology, general and special;

pharmacology; chemistry, organic and inorganic; bacteriology; pathology, histology and histological anatomy, etc.

As might be anticipated, we find characteristics of each author, so closely is individuality associated with his work—especially original work. Thus we find Dr. L. S. Pilcher saying, "Present experience warrants the statement that surgery can promise a very large proportion of absolute cures to cases of cancer of the breast, if its resources are employed as soon as the presence of the disease is determined."

Dr. Franklin P. Mall, from a study of seventy pathological ova concludes: 1—"The embryo may be destroyed quite rapidly in the young ovum and the cause probably lies within the embryo itself." 2—"Primary changes in the chorion may cause strangulation of the embryo, which is followed by a variety of pathological changes."

Dr. Henry Sewall shows that simulated reduplication of the first heart sound is frequent, and is due to some abnormal anatomical relation between the left plura and the pericardium—commonly points to some inflammation of the left plura, and occurs in the tuberculous.

Dr. William H. Howell says "Shock is characterized by long continued low arterial pressure and a rapid feeble heart. Injections of alkaline solutions of sodium carbonate intravenously or per rectum increase the amplitude of the heart beat and cause a rise of arterial pressure. The effect is entirely due to a direct action on the heart. Sensory stimulation augments the shock."

Novy and Freer's studies of the organic peroxides will be read with interest by all who are seeking an agent which will destroy pathologic organisms without harm to normal structures.

Abel's studies of the supra-renal capsules will have a wide interest. He shows that they are functional glands, essential to continued life; why or how they are thus cannot now be stated. The blood pressure raising principle of these glands was first obtained by Abel and Crawford by treating extracts of the gland with benzol. He shows that adrenalin is not a crystalline body of constant composition and not a pure chemical individual.

Dr. Edmund Andrews tells of the Indian doctors first practicing in North America, their methods, medical society, etc.

Cushny's studies on saline diuresis show that the epithelium of the tubules absorbs some constituents of the glomular fluid, notably the water and chlorides. This absorption is by an unknown form of energy, acting as in the intestine causing a current from the lumen towards the

blood vessels. This energy is of considerable magnitude, and subject to modification by conditions apart from the living cells and organized matter. Thus the chlorides are absorbed by the epithelium of the tubules more readily than the sulphates; the presence of sulphates in the tubules limits the absorption of the fluid through the osmotic resistance of the solution opposing the cellular activity.

Lack of space forbids even mention of the other contributors to Dr. Vaughan's anniversary memorial. The fine illustrations, the superb paper, binding, broad margins, make a de luxe medical book to be prized alike by Dr. Vaughan, his friends the writers, and all the profession interested in the development of medical science.

ATLAS AND EPITOME OF THE DISEASES OF THE MOUTH, PHARYNX AND NOSE. By Dr. L. Grunwald. Second edition, revised and enlarged. Edited with revisions by James E. Newcomb, M.D., with 102 Illustrations on 42 Lithographic Plates, with 41 figures in the text. Philadelphia: W. B. Saunders & Co. Cloth. Price, \$3.

The high character of Dr. Grunwald in both his original investigation and teaching genius, combine to render this work especially trustworthy and attractive. The beauty and accuracy of the illustrations are quite a surprise in so low priced a book. Especially valuable are they to the physician, whose clinical experience has been limited in this field, in enabling him to compare his perplexing case with a correct delineation thereof.

Rare conditions and curiosities have been omitted as foreign to the plan of the work. What must be observed and the methods for conducting such observations are the leading features of both illustrations and text. German exactness devoid of German prolixity add to the attractiveness of the volume. As nearly all the illustrations were painted by the author direct from nature, the reader may look over his shoulder as he records his observation.

He errs not who adds this book to his medical library.

A COMPEND OF DISEASES OF THE SKIN. By Jay F. Schamberg, A. B., M. D., Philadelphia, Third Edition. Revised and enlarged, with 106 illustrations. P. Blakiston's Sons & Co., Philadelphia, 1903. Price, 80 cents net.

A Quiz-Compend appeals naturally to the student and it is from the student's standpoint that the book must be judged. As a rapid reference work to the subject of dermatology it well meets the demands upon it, embracing, as it does,

in a clear and succinct manner, the various skin diseases to which the student's attention is directed in his course of lectures and which he sees in the clinical material daily demonstrated. A work on diseases of the skin needs to be well illustrated, as this little book is. Dermatology can best be taught upon the living subject; but next to this is the book abounding with well selected illustrations.

A COMPEND OF HUMAN ANATOMY. By Samuel O. L. Potter, M. A. M. D., M. R. C. P., London. Seventh Edition. Revised and enlarged. With 138 wood engravings; also numerous tables and 16 plates of arteries and nerves. Philadelphia. P. Blakiston's Sons & Co., 1903. Price, 80 cents net.

As this book has reached its seventh edition with hosts of friends it has demonstrated its right to live. Careful examination sustains the author's claim for a thorough revision, in accordance with the latest works upon anatomy.

A prejudice exists with many against works of this general class, but it would seem that there are "books and books." Some give the essentials of the subject, others only part of the essentials. In fairness these two classes must be separated, as what is correct of the whole is not of the part. In so far as we are able to judge, Potter has really presented the essentials of anatomy as a whole. Necessarily he has been compelled to omit many details which the specialist needs to know, but such cannot be called essentials to the average medical student. In fact, we fear that few physicians carry with them a living knowledge of a tithe of those grouped as such by Dr. Potter.

Many careful readers make a condensation of books they read, and to such this may serve as a substitute. Others desire to master the framework of anatomy first and details later. This book will meet their needs. Others, in preparing for an examination desire to refresh their memories with the more important points. Potter will meet this desire. Others seek to refresh memory with general facts in preparing for an operation, etc.; they also will be glad to avail themselves of this aid. In short, as a help, under special circumstances, to better use of the larger anatomies as Morris, Gray, Quain, etc., Potter is a valuable book.

Old illustrations are replaced by fresh ones, and a number of new ones added. New matter has materially increased the size of the book. Those who found former editions useful will find this still more so; those seeking help along the lines indicated are sure to find it in Potter.

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Original Articles

CONDITIONS THAT INFLUENCE THE USE OF THE X-RAY IN THE TREATMENT OF EPI- THELIOMA AND OTHER SKIN LESIONS.*

WM. F. BREakey,
Ann Arbor.

New remedies that are at all successful often achieve a popularity quite out of proportion to their merits, and as a consequence are applied to cases, and under conditions, where too much is expected of them, and fair opportunity is not afforded to test their worth, or failing to do all that was claimed, suffer a reactionary loss of confidence that does injustice to their real value.

This idea, it seems to me, applies especially to the present estimate of the x-ray as a therapeutic measure in the treatment of diseases of the skin.

The almost indiscriminate use of the ray, of which we frequently hear, seems to call for more caution and conservatism in the interest of the value of radio-therapy, and a brief consideration of the conditions under which most good may be secured from the use of the ray seems timely.

*Read before Section on Surgery at the annual meeting of the Michigan State Medical Society at Detroit, June 11, 1903, and approved for publication by the Committee on Publication of the Council.

In the few remarks I have to make I do not intend to be diverted into a discussion of questions of Coils, Static Machines, Currents, Tension, Tubes, etc., assuming that the apparatus and methods may be appropriate—though I have my own preference of apparatus for certain kinds of work; also the technique, so far as the question of distance of tube and duration of exposure may properly be considered with reference to the risks of causing a dermatitis.

The conditions to which I refer are such as may be found in the patient and in the diseased part, and may be summarized briefly into:

First—The region of disease and number of lesions.

Second—Area involved.

Third—Depth of tissue invaded—adhesions, or mobility—all of which are considered in

Fourth, the practicability of complete removal by excision and bringing the cut edges together and securing them by sutures, collodion gauze, or any preferable adhesive straps.

We all know how the skin can be stretched in some regions, especially by separating its cut edges from the subtegumentary tissue, and that a very considerable ellipse may thus be covered with almost certain permanent cure.

For this method of course the consent of the patient is essential, but when time

is an important item, as it often is, the patient will the more readily accept the opinion of the physician as to methods.

Quite considerable-sized growths may be removed with local anesthesia, if for any reason a general anesthetic is not advisable.

A good deal of courage to bear pain briefly may be infused into most patients by tact and courage on the part of the physician.

But what shall be done with the cases that are of such size, shape, depth, or in such region as on the nose, angle of eyelids, or other parts where excision is impracticable, or the patient unwilling to consent to the use of the knife? I refer here to cases already ulcerated. Most of these are the cases par excellence for the use of the X-ray—after being brought into best preparatory condition for the successful operation of the ray.

Such preparation requires in a large majority of cases thorough curetting and removal of all crusted masses, and of all the epitheliomatous growth on floor of ulcers, and under everted roll of border of rodent ulcer and all unhealthy granulations.

All this can be done under cocain anesthesia, or freezing with ethel-chloride, or both.

It is astonishing how a patient will submit to all this scraping with a curette who cannot bear the thought of a sharp knife!

Then, after checking all hemorrhage and the application of suitable chemical cautery (I usually prefer nitric, carbolic, or pyrogallie acid), and the separation of the slight slough and beginning of granulation, has come, in my opinion, the time and conditions most favorable for the therapeutic action of the X-ray.

And if necessity arises, the occasional

repetition of slight curetting, or cauterization. This may be done in conjunction with the use of the ray.

In other words, the use of the ray does not exclude any other appropriate treatment.

DISCUSSION.

P. M. Campbell, Detroit. I did not expect to have anything to say on this question. The paper of Dr. Breakey is very practicable, short, sharp and to the point. And I agree very heartily with what the doctor has said. There are some other points in connection with the treatment of this class of cases, the treatment of malignant cases which the doctor has not mentioned at all, which I think should be brought up in a paper of this kind, and that is the choice of tubes. This is a question which every man who uses this means of treatment has had to study out for himself, and come to his own conclusions in regard to the matter. I presume I am out of place to attempt to discuss this, but I would like to mention this fact, and ask Dr. Breakey's opinion in reply. I have found this to be the case: That what you call a virgin tube (tubes that have not been used), from them I get very much better results than I do by the so-called adjustable tubes or tubes that have been used before. A tube when it is first used seems to have a better action in this class of cases. There isn't any question that where you have a patient who will submit to the curette or knife for the removal of a certain amount of diseased tissue, it will hasten a cure. At the same time, where they will not submit, many times they can be treated successfully without its removal. There is apt to be a little pus come under the crust, that pus itself will loosen it, and it can be removed later. But, certainly one will save time, and save the patient some money by using the curette in the first place in certain suitable cases. There is a class of cases where there is a tendency to extreme malignancy, where there is objection to using the knife, unless the growths can be thoroughly removed. By so doing you open up lymphatics and blood vessels, and there is more tendency to secondary infection. I would much prefer to use for a short time the X-rays in that class of cases at first, and if I found it necessary later on to use the curette or knife to remove a certain amount of diseased tissue, there seems to be less danger of re-infection. You have frequently seen cases removed by the knife, that had not been progressing rapidly, and after the use of the knife had begun to grow with great rapidity. Now, on

that point I may be mistaken, but it is my opinion that in that case there is a re-infection, so to speak, on account of the fact that you have opened up new vessels. And I think that is the great danger in using the knife or curette in that class of cases. I think in many cases the X-ray should be used first. The curette or the knife immediately following, and the final treatment to be given by the rays. We will attain better results in the treatment of malignant diseases when the surgeon and the electrician work together on the case. That applies not only to the class of cases the doctor has mentioned, but to other cases of malignant disease.

A. E. Carrier, Detroit. I am very sorry that I did not hear Dr. Breakey's paper, and whatever I may have to say will be without any knowledge of his paper, or what has been said by those who have taken part in the discussion. We all acknowledge that in the use of the X-ray we have a factor, that is potent for much good. It is not so long a time that this therapeutic agent has been before us, and the lay press has advertised extensively that cancers are cured by the X-ray, that lupus is cured by the X-ray, that various other dermatological affections are cured by the X-ray, that no blood is shed, that no scarring results, and that its use is painless; facts that influence the laity towards the use of a measure that is devoid of these factors. In the hands of the few the X-ray has been demonstrated to be of great value, but it has been only a few years in use, and the time limit has not expired in which we should test the availability of any therapeutic measure. We can use the X-ray in cases of lupus and see the lesions disappear, melt away almost before our eyes, and yet the lupus returns. We can see epithelioma disappear under its use, but it may return. This is nothing against the X-ray, for you may treat a lupus by caustics, or you may remove it by the knife, covering the part by a plastic operation with new skin, and find in a little time that the disease has returned, and the same is true of epithelioma, or carcinoma, so these facts have no bearing against the use of the X-ray. There are some statements, however, made by those who are enthusiastic advocates of its use (and I am free to acknowledge that I am one of them, but am not given to making statements that it will cure everything), and we have heard in this room that cancers have been cured by this method and remained cured for five or six months, this time limit is too short to pronounce cures, and it is just such statements as these that will bring a measure so powerful for good into disrepute. Just so soon as those using the X-ray come to a realization of the facts, that it has a

sphere of usefulness, and that it has a sphere of harmfulness, then will we get to using it upon a scientific basis, and not as to-day in many cases as a matter of experiment. Another matter, reporters will state that they used a hard, or a soft tube, now what does that signify? Practically nothing. Very few will tell the distance of the tube from the tissue, but that is a matter of importance, as is also the size of the tube, and the length of the exposure. For all that we know theoretically as to what the X-ray is, we do not know practically, nor how it accomplishes its work, we simply know what it does by the results following its use. The use of the X-ray for everything must soon bring it into disrepute. In the short time that I have been using the X-ray I have had (I won't say how many) cases come to me that had been treated by numbers of exposures with results that were harmful. I have had cases of syphilis that have been treated by the ray without any effect upon the lesions, which rapidly disappeared under the iodides. Now, such use of the X-ray is to be regretted. Again cases have been reported where the use of the ray has started into activity an epithelioma where the disease has been dormant, or it has been the means of starting new foci of the cancer. These are results that should lead to a careful and scientific use of the X-ray.

Another matter to be considered is the fact that cases that can be better treated by other measures should not be treated by the X-ray, especially the malignant cases. Treatment by this method takes a long time. If a patient comes to me with a small superficial epithelioma, upon a part of the body where I can remove it with an arsenical paste, I accomplish the purpose in a much shorter period of time in that way than I could by the use of the X-ray. Of course, the paste is a painful method, but it is speedy. In other cases, the knife is the better method, following the operation by the ray. Now, just so soon as the X-ray is used along these lines scientifically will we relegate it to its proper place in the treatment of disease. In cases of acne it seems to have a field of usefulness in every variety of the disease, and is a very much more agreeable method for the patient than that formerly used. In cases of psoriasis, the most troublesome disease that we have to treat, we sometimes get most happy results, but the sooner we recognize the fact that the X-ray is not a cure-all and quit making extravagant statements regarding the results obtained by its use, and realize that it is only one of many therapeutic measures, the better will it be for the X-ray.

W. E. Newark, Charlotte: One thing that has impressed itself upon my mind is, that there is a good deal of confusion connected with the subject. I believe that too many men are buying X-ray outfits, and beginning the use of the X-ray with insufficient scientific knowledge. It seems to be the point which gives us so many different results, which we hear from different operators. No man will think for a moment, no sensible man, at least, that he can become an excellent surgeon by reading two or three articles in the journals, or by hearing two or three different people discuss the subject. I have been surprised at the way in which the X-ray has been used. I do not think that the X-ray can do everything, but I think to-day the X-ray has already accomplished certain facts, but the one thing that is before the public, and that thought was brought out here yesterday, is that we do not give time enough for the X-ray. We cannot get results as quickly as the surgeon can. Now, on that point, I do not think the general practitioner ought to think of spending his time on the X-ray. It requires too much time. Unless a man is situated so that he is doing nothing but office work practically, I do not believe he ought to think of taking up the X-ray. That is the reason why we get different results under different operators. There seems to be a greatly diversified opinion among the teachers and among the profession in a general way, and I believe it is largely due to the different way in which it is applied. I do not expect to get a cure in every case. But if present conditions continue we are going to send a great many of these cases to quacks, unless we treat our patients with something besides the knife. I have two cases in point at the present time. One is 70 years of age. Ten years ago she would not go to a surgeon to have it cut out. A charlatan put a plaster on. To-day she has hundreds of tumors all over both breasts. What are you going to do with those cases? They have no use for surgeons and I believe these cases can be benefited by the X-ray. I have another case I have been treating for carcinoma of the breast. She would not go to a surgeon to have it cut out. Must we let them die? We, as a medical profession, ought to master these cases and keep them out of the hands of the quack. I finally induced her to submit to the X-ray, and I am happy to say I have got a cure. The tumor has all disappeared. It is too recent, however, for me to make the statement that it is a cure. But I think there are many cases in which we do get as good results with the X-ray as the surgeon does with the knife. Some will return. I have seen a good many of

them that have been cut out that have returned within six or eight weeks, and return more malignant than ever. Whoever is going to use the X-ray must be imbued with the idea that it is a technical thing, that must be thoroughly mastered before it is attempted to be used. I have heard a great many men say, and I heard it especially last fall in Chicago, that these manufacturers will show a man with ten days' instructions how to manage the machine as well as anybody. That is not so. I have used the X-ray for four years, and I know I have a vast amount more to learn.

C. L. Barber, Lansing: I do not care to continue the discussion of this paper very long, and no more than to express my appreciation to Dr. Breakey for the paper, and for the able discussion that has already preceded me. I want particularly to emphasize the sentiment of Dr. Newark, of Charlotte, that the possession of an anvil and hammer does not constitute a blacksmith. Neither does a physician with a static machine or an X-ray outfit constitute an electrical therapist. I believe that every case needs its own special treatment. There are no two cases on which you can use the same technique. I have never found two cases that reacted the same to the X-ray. You have to raise the light or lower the light, or have a different distance from the tube, and there are no two cases that you can treat alike. The same with the surgeon. The surgeon may do the same operation upon different people and his technique will be different, according to the conditions which he finds. And I agree with one of the gentlemen who preceded me that we have a use for the knife and we have a use for the plaster and we have a use for the X-ray. In my experience with the X-ray, in indurated tumors of the breast of a cancerous nature, I have had the best results from the use of the X-ray and the knife together. I have had some cases of cancer of the breast disappear very easily and very readily with the use of the X-ray. I have had other cases where induration and inflammation of the breast was extreme where the enlargement would disappear with the exception of a very hard knot that I was unable to absorb, with the use of the X-ray. In those cases, if the patient will allow it, I have always used the knife, and then used the X-ray following. I do not care to take up any more of your time in the discussion, any more than to thank the doctor and express my appreciation for the good work he is doing.

H. R. Varney, Detroit: I regret very much not having heard the doctor's paper, but from the discussion that I have heard, I would

like to add a little from my recent experience. In the treatment of epithelioma with the Röntgen ray a great deal is to be thought of. First, the epithelioma, as to whether it is deep seated or superficial. And second, whether it is best to remove the mass with the knife, with the paste, with the curette, or with the X-ray alone. My treatment to-day is that which will give the quickest and promise the most natural healing. In a superficial epithelioma or one that involves only the integument where there is a large epithelioma border, the patient comes for the X-ray treatment, to escape the knife. In those cases, the quickest action can be obtained with the curette, afterward applying the arsenical paste for 24 or 48 hours, and then irradiate until the lesion is healed. From one to three weeks or perhaps a month's time will bring about most perfect healing in these cases. In cases where we remove all the malignant tissue, and where the cell vitality is so low that we will get retarded healing even with the Röntgen ray, I have found that changing from the X-ray after a month's treatment to the Finsen ray, will stimulate a new activity and get a continued healing. In epithelioma involving the mucous membrane, my practice has been to advise at once complete removal with the knife, unless they are very superficial, and then apply the ray. If irradiations are given long and increasing treatments sometimes the growths show improvement, where removal of the growth is not allowed, but generally there comes a time in the majority of those cases when the X-ray will lose its effect, and suddenly the epithelioma of the mucus membrane will begin to grow.

Removal of the deep growth, then the rays, gives best results.

W. F. Breakey, Ann Arbor: I feel rather flattered at the success of my paper already. I wrote it last evening after I came here, and my purpose was to do just what is accomplished. That I regard as a success, in bringing out some very interesting discussion. I wish also to congratulate some of the gentlemen that discussed it, who said they did not hear it, in being such excellent mind readers. They hit upon the very points I desired to emphasize in the paper. As stated it was especially intended, not to go into some of these details, because that involves us all in the points yet unsettled, and probably will be unsettled for some time. They will be determined only by continued experience, particularly as to apparatus. I simply state again that the paper referred entirely to superficial tissues. I did not propose to deal with deep tissues, carcino-

ma, or mixed conditions. A point I omitted, referred to by some of the gentlemen, and that is the susceptibility of different individuals. Another point I did not mention: I have found that my experience accords with those I regard as the best authorities, and that is the necessity for the continuance of the X-ray in some cases for a considerable time after the healing of the ulcer, at such intervals as may be found desirable. Of course, this also involves the questions of whether the repair is due to a better stimulation, a better blood supply, or destruction of micro-organisms. All that will doubtless be settled later on. I am very glad to have been the means of bringing out some discussion, and also to learn that so many men in whose judgment I have great confidence, are agreed with the chief object in writing the paper, that is, to call attention to the indiscriminate use of the X-ray for everything, as being likely to damage the therapeutic value of the ray itself.

THE TREATMENT OF THE HYPERTROPHIES OF THE LYMPHOID RING.*

B. R. SHURLY,
Detroit.

The treatment of hypertrophies of "the lymphoid ring" includes a wide and various field of therapy, all of which falls under the daily observation of the general practitioner. Although this subject in different phases has been presented to the profession many times, there are many problems connected with it that require more definite interpretation and discussion.

The structures comprising Waldeyer's ring, as you know, include the faucial, pharyngeal and lingual tonsils. The importance of careful and thorough treatment of these lymphoid tissues when hypertrophied has appealed to the writer as

*Read before Section on General Medicine at the annual meeting of the Michigan State Medical Society at Detroit, June 11, 1903, and approved for publication by the Committee on Publication of the Council.

requiring greater emphasis and more general recognition. The dangers of these conditions unrelieved are most forcibly demonstrated by the feeble resistance of such individuals to microbic infections. The most malignant and fatal cases of diphtheria and scarlet fever, and their attending complications, are developed by children who suffer from so-called lymphatism—with enlarged tonsils and adenoids.

A study of the therapy necessarily implies a study of the problems for increasing the degree of immunity. Resistance to infectious diseases is in direct ratio to the pathologic condition of the lymphoid ring. Ptomaine absorption in these conditions takes place through the lymphatic and vascular supplies of this tissue. The palliative treatment or removal of pathologic tonsils and adenoids is therefore a prophylactic treatment of great value against "the infections" and "their sequelæ," including tuberculosis, cervical adenitis, suppurations of the ear and accessory sinuses. Numerous other conditions, such as deafmutism, nocturnal enuresis, and stuttering, are favorably influenced or cured by the proper treatment of these lymphoid glands. More than 75 per cent. of pseudo-membraneous invasions of the larynx that require operative treatment are engrafted upon enlarged tonsils and adenoids.

It is not sufficiently well recognized that the chronic inflammations of the lymphoid tissues consist of several varieties, and that successful methods of treatment, operative or otherwise, must be adapted to the case. Four pathologic conditions are frequently seen. The chronic lacunar, caseous or follicular inflammation of some authors, the chronic parenchymatous or the familiar enlarged tonsils. There is a

sub-class called the fibrous or buried tonsils.

Polypoid hypertrophy is comparatively rare and consists of a localized excessive growth of the lymphoid elements. Two cases of this variety, each affecting the left faucial tonsil, have come under my observation. The growths were removed with the galvano-cautery snare. The treatment of chronic lacunar tonsillitis includes the destruction of the offending crypts. In many mild cases nitrate of silver, argyrol, or iodine applied by means of cotton carriers—the connective tissue bands having been severed—will effect a permanent cure. The enlarged tonsils with diseased crypts must be removed. This variety is frequently attended by an exceedingly offensive breath caused by the presence of putrefactive masses of material in the crypts. This condition usually responds readily to the above mentioned treatment.

The parenchymatous tonsil must be treated according to its pathologic anatomy and the symptoms developed thereby. There are many enlarged tonsils which are normal in structure. They cause no disturbance and require no interference. A history of repeated acute tonsillar inflammations, or a chronic cough, may be an important indication for operative interference. Palliative measures in marked cases should be discouraged. The use of sprays, gargles and applications in cases of exaggerated chronic types of hypertrophy becomes dangerous temporizing—especially with children of an age susceptible to diphtheria, scarlet fever and other infections. The only possible usefulness of this line of therapy is in preventing acute inflammations. Internal medication in the form of the iodide of iron and hypophosphites is exceedingly

valuable, especially after removal of the diseased tissue.

When operative interference becomes necessary a great number of methods are recommended for our consideration. The first step in every tonsil operation should include a separation of the adhesions of the faucial tonsil and pharyngeal folds, and this is frequently neglected. Makuen's knives or the instruments modified by Robertson are admirably constructed for the purpose. The tonsil will now come more prominently into view and can be easily engaged by the guillotine, snare, or scissors. The soft, loose tonsillar structure can often be destroyed with a pounce forceps—designed for crushing. The process of absorption and atrophy that follows brings about a permanent cure.

The choice of a method is determined by the anatomic and pathologic condition of the tonsil. The buried variety may be dissected out with the scissors of Robertson, which are modifications of the right and left perineum scissors. In which case a volsellum with many prongs will aid materially in lifting the tonsil from the surrounding tissue.

The problem of hemorrhage must influence our choice of method. For this reason, the snare operation has many warm advocates. According to Damianos (who finds eight recorded fatal cases) the complete removal of the tonsil increases the danger. Robertson states on the other hand that there is no serious hemorrhage possible after complete enucleation, as the arteries readily retract. Profuse bleeding occurs, however, where some remaining tissue prevents the retraction and contraction of arterial branches. Serious hemorrhage after other means of control have failed may require ligation

of the external carotid artery. W. W. Kean has reported two successful cases of this sort.

The choice of an anesthetic is of great importance to the success of all throat surgery. Nitrous oxide, which is extensively used in the East and in England, furnishes a safe period of unconsciousness for the shorter operations. Ether may be then added if a more prolonged anesthesia is required. I have found cocain infiltration of the faucial tonsil exceedingly satisfactory in office work when the guillotine or cautery are to be used. Chloroform is the most dangerous anesthetic, but the ease and rapidity with which narcosis is produced influences its great popularity. Ethylbromide will give an anesthesia lasting from one-half to two minutes. It has many staunch supporters on the continent of Europe.

Objection to the removal of tonsils is frequently made because some teacher of singing has said that this procedure ruins the voice. This view is very generally accepted by the laity. It is certainly true that the normal physiological functions of the tonsil should not be subjected to surgical interference unless the case presents well marked pathological conditions. Complete removal of faucal tonsils may be followed by a temporary loss of the singing voice, especially several notes of the upper register. This has been demonstrated by Makuen, of Philadelphia, and Sack, of London. This result, however, is due to changed muscular movements of the pharynx. The experience of numerous observers proves that where the operation is skillfully performed and no ragged surfaces remain, the voice is restored with additional quality. Enlarged tonsils are etiological factors in the conditions known

as vocal fatigue, and in acute inflammations.

Chronic enlargement of the lingual tonsil, which is frequently overlooked, can be removed by the lingual tonsillotome or cautery.

Adenoid vegetations or hypertrophy of the pharyngeal tonsil usually attends hypertrophy of the faucal tonsil. The proper treatment for this condition is followed by the most satisfactory and important results. The thorough operative removal of "adenoids" is of such benefit to patients suffering from the many injurious effects of mouth breathing, that it seems incredible to the writer that this fact is not more generally recognized and the patients relieved. The technique of operation is to be modified according to the location of the growth. Under general anesthesia, I have found the removal of the central mass by the Gottstein curette a most satisfactory measure, aided by the tongue depressor, the mouth gag, and a good light, care being taken to keep the curette in the median line. Particular attention must be given to clearing out the fossæ of Rosenmüller. This tissue near the prominences in the region of the Eustachian orifices is frequently overlooked, and an imperfect result follows. Great care is necessary while operating in this location.

Unusual hemorrhage, can be readily controlled by a cold water douche, the application of adrenalin chloride or a gauze tampon. It is interesting and instructive to trace the radical and conservative waves of surgical thought in reference to the indications for operative measures on the lymphoid ring. Bosworth has claimed for more than twenty-five years that healthy tonsils do not exist in the healthy throat. The conservative school emphasizes the

importance of the normal physiology of the tonsil. They claim with considerable reason that atrophic conditions frequently follow the complete removal of these glands, and that impairment of the voice results secondarily in later years.

A plea for more careful and scientific study of cases would seem necessary. A wide choice of methods is presented by every text book, and the young practitioner is soon lost in a sea of indefinite details. Our difficulties are greatly increased by the number of modified instruments and methods that are heralded after a few trials as great improvements in technique. This growing evil might be remedied by appointment of committees by our national medical societies that would by experimental and clinical methods, and by collective investigation, separate the worthless methods, instruments, and work from those of value; and also establish a more definite line of therapy with fewer surgical instruments. The wave and craze of instrument invention may well receive an inhibitory stimulus in the field of the laryngologist, who is flooded and impoverished by a whole series of useless modifications of really good instruments. These in many cases serve only to bring some professional name before us at our expense. A striking example is the dangerous effort to cheapen and modify the O'Dwyer intubation tubes and other instruments to the great detriment of the operation and the patient.

If we could reach some definite conclusions as to the best surgical method of removing tonsils when used by the general practitioner, I should say, first, the tonsillotome of Makuen or Ermold. The adhesions should first be divided in all cases. Second, the tonsillotome of Cassellberry may be used where the tonsil is

difficult to engage with the forks of the ordinary instrument, and finally the use of the cautery tip in the buried or chronic follicular varieties. Those with special training will find the snare or scissors more convenient and efficient in many cases, but under these methods the operation may become very tedious and dangerous. The numerous other procedures are only adapted to rare and unusual varieties. In conclusion I wish to emphasize the great importance of diseased tonsils and adenoids being a frequent etiological factor in the development of infectious diseases. That these conditions directly increase the fatal and malignant course of such diseases is clearly demonstrated by the high percentage of operations necessary in laryngeal diphtheria, where the removal of tonsils and adenoids had been previously indicated, but not done. With the dangers to the life and health of the subject of lymphoid hypertrophies so apparent and far reaching, a careful diagnosis and thorough treatment of the condition affords the practitioner some of the most satisfactory results in surgery.

MOVABLE KIDNEY.*

J. A. ATTRIDGE,
Detroit.

My reason for reading a paper on this subject before your society is that, according to recent literature, quite a large per cent of our population is suffering from a condition which, until recently, the profession did not recognize, or when recognized the results obtained by methods then employed were so unsuccessful and hazardous as to stay the hand of the most courageous surgeon.

In recent years the improved technic employed in all surgical procedures, together with low mortality as the result of aseptic surgery, combined with a better understanding of the symptoms and pathology, have given us fresh impetus to extend relief to a class of patients whose life otherwise would be one of endless torture.

This condition is so serious in some cases as to actually endanger life, and while there is a mortality from nephropexy, there is also a mortality from the expectant plan of treatment, which must be considered when deciding for or against operation.

FREQUENCY.

Of recent years the diagnosis of movable kidney has been made so frequently during abdominal operations, and this diagnosis has been sustained by lumbar incision, that the statistics as to frequency are more reliable than formerly.

As a result of such findings a train of symptoms which previously were erroneously referred to the stomach, the intestines, the gall-bladder, or pelvic organs, have led to more frequent examinations for movable kidney.

Oser of Vienna claims that wandering kidney is found in ten per cent of the poor women of Austria who have borne children. In a table of 429 cases collected by Newman the sex is given; of these 252 were women, and 38 men, a proportion of 6.6 to (1) man.

In Keen's table of cases of nephropexy for movable kidney, the sex is reported in 99 cases. Of these 93 were women and 6 men, a proportion of 15.5 to 1.

In considering the relative frequency of mobility of the kidneys, it is remarkable how much more common it is on the right than on the left side.

*Read before the Huron County Medical Society at Harbor Beach, July 13th.

Ebstein gives 4.5 to 1 as the ratio. Landan found 11.6 to 1. Keen nearly 11.1.

Landan found the condition bilateral 14 times in a series of 151 cases.

In Keen's tables of 87 cases it was found 76 times on the right and 7 on the left, a proportion of nearly 11-1.

TO SUMMARIZE.

(1) Mobility of kidney is more frequent than is generally supposed, from 3 to 10 per cent of adult women having movable kidney.

(2) It is found more frequently in women than in men, in proportion of about 6-1, and is more common on the right than on the left side, about 11-1.

(3) That it is a bilateral affection in a per cent of the cases.

The terms floating kidney and movable kidney are used synonymously by some, but that a distinction should be made may be gleaned from the following:

Floating kidney is usually a congenital condition. It differs from movable kidney in that it is entirely surrounded by peritoneum and has a mesonephron. It is very rare.

Movable kidney is an acquired condition. It is very common, as is shown by table, and is most frequently found in the years between 20-40.

Lawson Tait, in the *British Medical Journal*, November, 1882, in reference to a case diagnosed as floating kidney by several eminent authorities, but which on operation proved to be a distended gall-bladder, has this to say: "I have never seen a floating kidney in life nor in a museum, nor have I met anyone who has." That floating kidney does exist is generally acknowledged, and at the present time several cases are reported, some of

which were anchored, but apparently with a lesser degree of success than was achieved in anchoring movable kidney. Inasmuch as all kidneys are movable within certain limits, we have to make a distinction between the physiological mobility, or that movement which takes place with each respiratory act, and pathological mobility.

The location of the kidney normally is in the hypochondrium, extending into the lumbar regions on either side of the vertebral column, behind the peritoneum. The right kidney is slightly lower than the left, and both rest on the arch of the diaphragm, where it descends in front of the twelfth rib; below the twelfth rib it rests upon the quadratus lumborum, although it is separated from the muscle by a layer of loose cellular tissue, which surrounds the kidneys and the anterior layer of lumbar fasciæ, and finally rests upon the psoas muscle.

The anterior surface of the right kidney is in contact with the duodenum and transverse colon, while the left kidney is in contact with the posterior surface of the descending colon.

The upper pole of the kidney rests against the liver and fundus of the stomach respectively. A kidney of average size measures $4\frac{1}{2}$ " in length, $2\frac{1}{2}$ " in breadth and $1\frac{1}{4}$ " in thickness, and weighs $4\frac{1}{2}$ ounces. The renal arteries and veins will be found on a level with and opposite the space between the spines of the first and the second lumbar vertebra.

As to what structures retain the kidney within its normal limit there is some debate. This is probably due to postmortem changes. It is claimed that it is held:

First—By a mass of fatty matter in which it is embedded.

Second—By the parietal peritoneum.

Third—By the shape of paravertebral fossa. A wide and shallow fossa predisposing to displacement.

Fourth—By an extension of the fibrous capsule from the kidney to the aorta.

Fifth—By the blood vessels.

With a view of obtaining the facts, Watson conducted a series of twelve post-mortem examinations on subjects dead less than twenty-four hours, and in subjects which presented no abnormal changes in kidneys or surrounding structures. His experiments, which correspond with those of Gerota and others, led to the following conclusions:

First—Of first importance in sustaining the kidney in normal position is the structures which form attachments between the posterior surface of the kidney and the upper part of tunica propria and fasciæ covering lumbar muscles, aided by less essential ones connecting the anterior surface with peritoneum overlying it.

He reasoned from the fact that after he severed certain structures around the kidneys the mobility was increased, and thereby so much sustaining influence was attributed to each structure removed.

It is worthy of note that the increase of mobility, after removing the entire fatty mass, was only slight.

ETIOLOGY.

The etiological factors usually suggested for movable kidney are:

(1) Enteroptosis.

(2) Sudden wasting of perirenal fat, as result of acute illness.

(3) Increase in size and weight of kidney.

(4) Downward weight upon the kidney by enlarged liver, and large pleuritic effusions.

(5) Tight lacing.

(6) Rapid relaxation of abdominal muscles after pregnancy.

(7) High-heeled shoes, by changing the lumbar curve, predispose to movable kidney.

In many cases this condition has been recognized after a fall, violent fits of coughing, or retching, and they may have been its producer.

Traumatism is a frequent cause.

Daubrieux, after a critical review of the theories of etiology of movable kidney, concludes that it is independent of extra abdominal tension and obesity.

Harris ascribes mobility of kidney to a disproportion between the various zones of the trunk.

One author reports 42 cases of movable kidney in 100 Arab women, taken at random, though those women never wear corsets or waist-bands. From the foregoing it seems only reasonable to suppose that only in selected cases can one be positive of the etiology, thus leaving a large class of patients the etiology of whose condition will only be determined by further investigation.

SYMPTOMS.

On account of the multiplicity of symptoms attributed to this condition, it seems to the writer that a brief mention of the symptoms, with a more thorough analysis of symptoms as they occur in a few specific conditions, would give us the best results.

All cases do not produce symptoms, and the condition is only discovered accidentally, during examinations for other conditions, when the symptoms could not have any connection with the movable kidney, or postmortem.

Thus, in (Cushman's) table of 270 cases diagnosed as nephrotosis by palpation,

there were no symptoms of distress. In 130 of the remainder, 72 suffered from various neurosis, and in 68 the condition was more serious.

The most common effect of movable kidney is general impairment of health with loss of flesh, languor, debility, constipation and various mental states.

The subjective symptoms are pain, a dragging sensation from the back extending to the groin, indigestion with flatulency, constipation and vomiting, or in other words, symptoms which direct your attention to the intestinal tract.

The more serious cases have more serious symptoms, and depend on the position of the kidney, but not on the extent of mobility. The dragging pains already referred to are probably due to the kidney pulling down the duodenum by means of adhesion formed between the upper pole and duodenum. That this condition in turn closes the pyloric orifice, and prevents the stomach from emptying itself properly, thereby producing gastric dilatation and gastric enteroptosis. To this must be added the weight of the kidney with tension on its own nerves. The pain is due either to torsion of its own vessels, or to pressure on neighboring organs or to both. From the number of cases of appendicitis and diseases of the biliary passages, associated with movable kidney, many observers are beginning to see the relation of cause and effect, and are treating the associated conditions simultaneously with the prolapsed kidney.

Another cause of pain is due to kinking of the ureter producing hydronephrosis.

The languor is probably due in some cases to disturbed digestion with its sequelae and in others to toxemia, produced in certain cases by interference with the biliary passages, thus producing jaun-

dice. The vertigo may be accounted for in the same way.

The symptoms attributed to disturbances of the intestinal tract as indigestion, flatulency and constipation are reflexed in some cases, and in others are due to the changes in the stomach as result of obstruction to the pylorus.

One case is cited in which the constipation was found to be due to the left kidney dragging down the splenic flexure of the colon, thereby interfering with the free passage of the bowel contents.

When pain is due to kinking of the blood vessels, it comes on suddenly, is felt in the loin and radiates to the groin, and is accompanied by a suppression of urine. The symptoms in severity are not unlike those of renal colic. The symptoms due to kinking of the ureters are also severe, and if this condition lasts for any considerable time hydronephrosis results, and can be demonstrated by palpation, and later by a sudden copious flow of urine, indicating a relief of torsion of the ureter.

To the already mentioned symptoms may be added neurasthenia and palpitation of the heart. One of my patients said she could feel something swing with each step.

DIAGNOSIS.

The diagnosis is made by palpation. The presence of a tumor, kidney shaped in the abdomen, which is movable, particularly if it can be returned to its normal position, being significant. The method usually employed is to place the patient in an upright position against the wall, or on the table with head flexed on chest, the thigh on the abdomen, and have the patient turn partially on the left side, if the right and vice versa if the left kidney is to be palpated. The fingers of the left hand are placed at the lower border

on the last rib in the lumbar region, and the right hand is placed on the abdomen, at a point corresponding to the left in the loin. The patient is asked to take a deep inspiration, when the kidney is felt to pass between the fingers toward the pelvis, and with the expiratory act it will again follow up the diaphragm. This is not sufficient in all cases, as in some cases the kidney is found down in the pelvis at one examination, and again as high in the abdomen as the diaphragm will permit, as in one of my own cases.

That the diagnosis is not always an easy matter can be judged by the number of cases that have been unrecognized and only found after opening the abdomen.

TREATMENT.

The treatment of this condition is operative and non-operative, and to the writer it seems a careful analysis of cases as they present themselves is the only way of determining which shall be operated upon and which shall be treated by other means. From a careful perusal of the literature, together with my own experience, which is limited, I have come to the following conclusions. Those cases should be treated by non-operative means:

First—Where by reason of associated conditions an operation is not deemed advisable, as in advanced pregnancy, in the latter stages of tuberculosis, and in general enteroptosis.

Second—In all conditions where we are not satisfied beyond any reasonable doubt that the symptoms are directly dependent upon the mobility or location of the kidney.

Third—In cases where the patient will not consent to an operation.

The treatment of above mentioned cases consists in:

First—Various supports intended to reduce the prolapse and relieve the symptoms.

Second—By rest and good feeding, to improve metabolism, and increase the fat about the kidney. Dr. Kellogg, of Battle Creek, has recommended in those cases which have the faulty habit of carrying the shoulders forward, and contracting the chest, systematic exercise in expanding the chest, and developing the muscles with the object of elevating the kidney, and keeping it in place.

Massage of abdominal muscles together with the use of abdominal belts and kidney pads have been practiced by some. The results obtained by the above methods differ widely in the hands of different men, some claiming relief of all symptoms in a large per cent of cases, while others speak discouragingly of such practices. In this connection Dr. Goelet, in a full discussion of the subject, has this to say, that palliative measures, such as abdominal supports, are of no avail and therefore useless and unwise, if the degree of prolapse is sufficient to produce symptoms. Henry Morris has little faith in trusses or bandages, because, while in exceptional cases they may keep the kidney up, they do not fix it in its proper place, and have to be worn continually, often with great discomfort. Moulin claims that in his experience only the milder cases are benefited by abdominal belts. Edebohls does not speak very encouragingly of them. In view of the known ability of the authors above referred to, it seems unnecessary to further discuss this part of the treatment, other than to add, that it is the consensus of opinion that the best results are obtained by supports in those cases where there is a general enteroptosis with lax abdominal

walls. In these cases the abdominal supports, by holding up all the abdominal contents, give a degree of relief.

In certain cases where the patient has made a diagnosis of movable kidney, thus disturbing the mind, such treatment might result in great mental benefit.

The operative treatment is applicable to all cases not included in above list and, with the exception of those which produce no symptoms, therefore need no treatment whatever.

The surgical treatment has for its object the replacement of the kidney in its normal, or nearly normal, position as is possible and fixing it there. This operation is known as nephrorrhaphy or nephropexy, and while the ultimate object of all operations is the same, the technic employed by different operators is very dissimilar.

In 1874 Greenville Dowell, of Galveston, Texas, made what is now considered a rude attempt at kidney fixation by passing a seton through the abdominal wall and then through the parenchyma of the kidney. In the description of the case Dr. Dowell does not speak of the condition for which he operated as floating kidney, but as a mobile tumor. The object of the operation was to promote adhesions between the tumor and the abdominal wall, and was successful for a time, but later it again came loose. The seton was again passed, but the relief was not as great as from the first operation. This condition was later diagnosed as movable kidney, and nephrectomy was performed with relief of all symptoms.

In 1881 Hahn, of Germany, made the first deliberate operation of fixation of the kidney, stitching the fatty capsule to the edge of the wound. He has since modified his technic, as the fatty capsule

was found inadequate to retain the kidney in position. This has been the experience of operators generally. Some operators continue to use the fatty capsule in conjunction with other structures as a means of retaining the kidney.

In 1897 Dr. Senn, of Chicago, gave to the profession his method, which consists in removal of the fatty capsule and bringing the kidney into the wound and retaining it by strips of gauze passed under either pole, allowing the wound to heal by granulation, thus retaining the kidney in the cicatricial mass.

Vullett's method consists of taking a strip from the erector spinæ muscle, and having it pass under the capsule, and again attaching the free end to the muscle proper.

Reed, in practicing nephropexy, passes his sutures through parenchyma of kidney and the lumbar muscles. Other operators resect flaps of the capsule proper, and stitch the same into the wound.

Another method which is practiced largely by the French surgeons, is suspension of the kidney from the last rib by silver wire or silk worm gut.

The method of fixation by strong acids applied to the kidney, setting up adhesive inflammation between kidney and lumbar muscles, is practiced by some.

The technic practiced by the writer is that which was originated and given to the profession by Dr. Geo. M. Edebohls, in February, 1902, and is as follows:

The patient is made to lie on the table face downward, the abdomen being supported by a kidney air cushion. The incision dividing the skin and subcutaneous fat, extends from the border of the last rib to the iliac crest along the outer border of the erector spinæ muscle. The fibres of the latissimus dorsi are sepa-

rated over the outer edge of the erector-spinae muscle. Now separate the fibres of the transversalis fasciæ, exposing the perirenal fat. The next step is to bring the kidney into the mouth of the wound. This is accomplished by rolling the patient on the cushion above referred to. If the kidney is far up under the diaphragm, by taking the patient by the ankle and drawing down, thus bringing the epigastric region over the cushion and increasing the pressure, the kidney is forced down to the wound. The kidney is now delivered through the wound, on to the muscles of the back, and the fatty capsule is removed. The capsule proper is now nicked, and a grooved director is passed under it, and the latter divided the entire length of the convex border of the kidney. The capsule is now reflected by blunt dissection half way down on either side of the kidney, and the same distance around either pole. The preparation of the kidney is now complete. The fixation sutures which are forty-day chromicized cat gut, are now passed in the following manner. The threaded needle is passed through the reflected capsule from the inside. It is then made to take several stitches between the reflected and still attached capsule close to their line of junction, and is again passed through the reflected capsule from the outside. Both ends of the suture are now between the kidney and the reflective capsule. Such a suture is passed at the juncture between the middle and upper and middle and lower pole of the kidney, anteriorly and posteriorly. The kidney is now replaced through the opening into the loin after having previously secured all ends of the sutures by forceps. The sutures are now passed through the muscle from within outward, the upper suture passing out

just below the lower border of the last rib. The sutures are now secured until the muscles are brought together in such a way as to bring the raw surface of the quadratus in contact with the decapulated portion of the kidney.

This is accomplished by dividing the fascia of the quadratus along its anterior border and stitching it back. The divided muscles are now brought together by several interrupted sutures and tied.

The fixation sutures are now tied, the ends of each suture being tied together at right angles to direction of fibres of latis-simus dorsi. The operation is concluded by closing adipose tissue and skin with interrupted sutures.

The kidney thus fixed rests with the upper pole under the last rib; the lower pole occupying the same position under the crest of the ilium.

The advantages claimed for this method are the short time required to get firm anchorage, necessitating only three weeks confinement as against four and five weeks, and as high as seventy days advised after some methods of operation. There are no foreign bodies left in the kidney substance. The wound is closed and painful dressings are dispensed with. That anchorage of the kidney is permanent has been shown by repeated examinations of patients previously operated upon.

MORTALITY.

The frequency with which other associated conditions, as appendicitis and gall stones, are operated upon at the same time, leaves this a somewhat unsettled question, but it is stated by Edebohls' "Annals of Surgery," February, 1902, to be between $1\frac{1}{2}$ and 2 per cent.

SUTURES.

Almost every suture used in surgery has been made use of in fixing the kidney,

silk, cat gut, plain and chromicized silk worm gut, kangaroo, tendon, and silver wire. To this list may be added the tissues of the bodies, which are brought in use, as the periosteum of the last rib or strip of the erector spinæ or latissimus dorsi muscle. After a careful consideration of the different operative procedures from every standpoint as it affects the well being of the patient, the writer advances the following conclusions:

First—That nephropexy has not generally met with favor because of the number of relapses.

Second—These relapses are due in many cases to insufficient fibrous union between the kidney and the lumbar muscle.

Third—That Edebohls' operation produces as nearly perfect result, not followed by relapse, with less danger and inconvenience to the patient than any other known to the writer.

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REPORTS OF SEVEN RARE ABDOMINAL SECTIONS.*

I. N. BRAINERD,
Alma.

1. Ruptured Tubal Pregnancy.
2. Resection of the Gut.
3. Cæsarean Section.
4. Ruptured Tubal Pregnancy.
5. Gastrostomy.
6. Ruptured Ovarian Pregnancy.
7. Splenopexy.

CASE I.—*Ruptured Tubal Pregnancy.*
—On the morning of Dec. 13, 1901, my

*Read before the Section on Surgery at the annual meeting of the Michigan State Medical Society at Detroit, June 12, 1903, and approved for publication by the Committee on Publication of the Council.

neighbor, Dr. Bagley, was called in urgent haste to see a Mrs. B., who lived two and one-half miles out in the country. Dr. Bagley found the patient in great pain, pallid, and in great alarm, and having a feeble pulse, and in dyspnœa.

Upon examination he found a mass in the right iliac fossa, and the patient very tender to palpation over that region. He diagnosed a ruptured tubal pregnancy, told them what must be done and hurried back to town after me and my nurses. We got instruments, dressings and sterilizer together, and hurried over the muddy roads as rapidly as we could.

We found the patient somewhat recovered from the shock, but concurred in the diagnosis; and, having obtained the patient's consent, proceeded to open the abdomen.

While carrying her from the bed to the operating table, alarming symptoms set in from a fresh hemorrhage, we believed. Dr. Bagley maintained artificial respiration, while I and my nurses opened the belly and sought out the bleeding artery. In five minutes I had the artery clamped and then waited for the patient to resume breathing.

Upon opening the abdomen a quart of blood (estimated) boiled out like water from a faucet. We cleaned out the clots and the products of conception, tied the artery and sewed up the wound without drainage.

The patient recovered fully without any unfavorable symptoms.

CASE II.—*Resection of Gut*.—On Oct. 3, 1902, the commissioners of the poor, for Gratiot county, sent to my hospital J. D., with the following history: A year before this date, while working in a saw-mill, a broken board was caught by the saw and hurled endways, hitting J. D.

in the left side of the belly. He was knocked senseless, and remained so for hours. Then he had peritonitis for thirty days. Since that time he has been laid up about ten days out of every month with signs of intestinal obstruction. He was just recovering from such an attack when he was sent to me. I made a diagnosis of intestinal obstruction, probably due to adhesions. We opened him up on the same day of his arrival and found not a sign of adhesions, but eight inches of gut strictured almost to closing. We resected this, making an end-to-end anastomosis with the Murphy button.

The patient made a splendid recovery, and went home in about fifteen days. A month later he was sent back with a diagnosis of another obstruction. We opened him again, but found nothing but some hardened feces in the colon. We crushed these and gave a physic, and sent him home well in three weeks.

We have since heard that he has gone to the poor-house.

CASE III.—*Cæsarean Section*.—In the small hours of the night, Nov. 11, 1902, my friends, Drs. Wheeler and Kennedy, of St. Louis, got me out of bed and told me that they were "up against the real thing." The "real thing" was that they had been trying for about fourteen hours, if I remember correctly, to deliver a Mrs. W. who lived about ten miles from Alma, and that they were unable to do anything. We agreed on a Cæsarean section, and went out there. Dr. Wheeler had hurried back there, and made preparations so far as he could.

As soon as we could get washed and sterilized the patient was chloroformed by Dr. Pettit and laid upon the table. In two minutes we had the baby. And then it was plain why the doctors could not

deliver. The baby was a hydrocephalus, the head measures being, occipito-frontal, $9\frac{1}{2}$ inches; cervico-bregmatic, $8\frac{1}{2}$ inches; circumference, 22 inches.

The fœtus had been so long dead that the skin sloughed off from it when handled.

The patient rallied beautifully from the anesthesia, but died on the third day from sepsis. We all believed that the infection took place before the operation, because the gut was greatly tympanitic, and was paralyzed at the time of the operation.

This is my third Cæsarean section. The other women are alive.

CASE IV.—*Gastrostomy*.—This patient came from Owosso on Jan. 15, 1903. She had typhoid fever three or four months before coming to the hospital. During the progress of the fever she had an ulcer in the œsophagus, near the cardiac orifice. A stricture followed, closing the œsophagus so that for three months she had not been able to swallow any solid food, and for three days before her arrival she had not swallowed so much as a drop of water. She had been sounded with bougies, without success. I failed, too, to get by the obstruction. On the day of her arrival we did a gastrostomy after Witzel's method, and began feeding by the stomach on the second day. Up to that time we fed by the rectum. A perfect recovery followed, and the patient gained fourteen pounds in eighteen days.

She is feeding through a No. 12 soft-rubber catheter, which she prefers to leave in the stomach rather than to take it out and to reintroduce it each time. She closes it with a glass plug.

We never heard before of ulceration of the œsophagus in typhoid fever.

CASE V.—*Ruptured Tubal Pregnancy*.—This case came into my hands on the

night of March 5, 1903, from Otisville. She brought a letter from her physician stating that she was suffering with gonorrhœal pyosalpinx, and had been so suffering for five weeks.

As the patient was in bad condition, I did not inquire into the history of the case; but finding a tender swelling in the region of the left tube, I concurred in the diagnosis, and operated the next morning.

Upon opening the peritoneum, bloody serum poured out. Enlarging the opening some, blood-clots appeared. Continuing my search with my fingers, I found a cyst in the left of Douglas' pouch. Attempting to lift this out, I burst it, and a four-months old living fœtus came up and out, like a "jack-in-the-box."

The amniotic sac, placenta and right tube and clots were all removed, and the peritoneum closed and the wound sewed up tight.

The pregnancy had occurred in the right tube. The fœtus had slipped over to the left iliac space and anchored itself there, between the rectum and the broad ligament, and continued to grow.

After the operation I obtained this history: Four and a half weeks before coming to the hospital she had been seized suddenly with pain in the lower belly, with pallor, shock and subnormal temperature. She revived some the next day, but remained an extreme sufferer and bed-fast from that time onward. After thirty days she was brought a hundred miles on a cot to the hospital, was operated, and lives to tell the story.

CASE VI.—*Ruptured Ovarian Pregnancy*.—This is our third case of ectopic pregnancy in fourteen months, and these three are the only cases that we have recognized in twenty-two years.

Mrs. C. lives near Shepherd, Mich. At

2 o'clock, on the morning of April 2, she was waked from sleep with great pain in her belly, which they sought to relieve until morning, when they sent for their family physician, Dr. King. He found her pallid, with a temperature of 97° , and a pulse of 126, compressible and irregular. The next day he called me to see the case with him. We diagnosed a ruptured tubal pregnancy at one month, and advised to watch one day, and then, if the pulse did not slow down and become regular, and the temperature, which had risen to 100.5° , become normal, or should further signs of hemorrhage occur, to operate. This was on Saturday night. Early Monday morning she was brought to the hospital. An hour or two later the abdomen was opened and a ruptured pocket in the right ovary was found, which, with its membranous flaps, would hold a dram or so of fluid. Only a little hemorrhage had occurred. The tube was intact; but the ovary and tube were removed, and also those on the left side. The left tube had an ampulla about three-fourths of an inch in every diameter filled with something, the like of which I had never seen before, but believed it to be dried-out pus. The ovary had atrophied to a small knob. The patient made a good recovery.

CASE VII.—*Splenopexy*.—On April 4, this year, Mrs. K., of Mt. Pleasant, came to the hospital with a diagnosis of movable kidney. Upon examination I found what I believed to be a movable spleen; and a few hours later cut down upon the tumor, cutting through the belly-wall in the left linea alba. I found my diagnosis to be correct. The spleen was four or five times as large as it should be, but otherwise normal. I decided to push it back into place and to scarify it and the pari-

etes, and to stitch it up under the ribs. There was some difficulty in this, but only a little hemorrhage. The operation, as an operation, was very successful; but what the end-results will be remains to be seen. I am giving her arsenic with the hope of reducing the size of the spleen, and keep her tightly bandaged. The dragging pain in the back that she used to complain of is nearly all gone.

While writing up this case I picked up the April number of the *Annals of Surgery*. The first article is by J. Basil Hall, England, on "Splenopexy for Wandering Spleen." He says: "Wandering spleen is a rare condition, and the records of operations undertaken for its fixation can still be counted on the fingers."

I think that should I have another case I would enucleate the whole gland.

NOTE.—For information on ulcers in the œsophagus during typhoid fever, see Nothnagel's *Encyclopedia of Medicine*, now in press.

SURGICAL TREATMENT OF FRACTURED SPINE, WITH REPORT OF FOUR CASES.

C. HARVEY RODI,
Tamarack Mine, Calumet.

The literature on spinal traumatism is extremely interesting when viewed from the operation standpoint. Operation, in cases of injury, was suggested far back in the past, the history of which is very interesting to those who can afford the time to look it up. I will try to give you a very brief review of those features which seem to me the most interesting:

In 1745 Heister expressed the opinion that if the spinal marrow is wounded, although it may seem cruel to attempt relief, the surgeon should lay the injured part bare, elevate the fragments, cleanse

the wound thoroughly and apply balsamic medicines. This should be continued until the wound heals or the patient dies.

The nearest approach to a formal resection of the spine was performed by Locus in 1762. The first operation for the removal of a depressed vertebral arch was performed by the younger Cline in 1814, and though unsuccessful showed the practicability of such an operation. He reasoned, from analogy, that the indications for an operation in fracture, with displacement of the vertebra which compressed the cord, was precisely the same as in the brain when compressed by the fractured skull, and, therefore, as the elevation of the pressing bone in the latter case was often effected with success, so was it equally called for in the former, and no good reason should exist why the operation might not be successful.

Before undertaking the operation Cline proposed to himself the following questions:

1. Will the patient die of the operation? Probably he will, if the injury be severe.

2. If the cord be much hurt, will it recover its functions? This is unknown; but we do know that if a nerve be divided it will unite, and the greater part of the spinal cord may be divided in a brute, and yet the animal recover.

3. After the removal of the arch of the vertebra will the spine be sufficiently strong to support the body? Probably it will for ordinary purposes, though the person may not be able to lift heavy weights.

4. Will the patient recover from a compound fracture of the spine, which, by the performing of the operation, it becomes? The nearer the fracture to the source of the circulation, the greater is the proba-

bility of recovery. He added that the only reasonable objection to the operation was that we did not know whether the spinal cord was simply compressed or whether it was partially or entirely torn through, or whether the symptoms were due from the effusion of blood.

Cline's operation, although his patient died, attracted great attention. Its propriety was vigorously discussed for many years by the leading surgeons, which often degenerated into bitter and vehement personalities.

Sir Benj. Brodie and others opposed operation; on the other hand Sir Astley Cooper concluded his remarks on the subject by saying: "Although I may not live long enough to see the operation frequently performed, there is no reason why it should not; and he who says that it ought not to be attempted is a blockhead."

In 1869, in an address on surgery, before the British Medical Association, the subject was again brought to the attention of the profession. The author said that a great majority of the surgeons had had an unfavorable opinion of the operation. He could not but think that this position had resulted more from submission to habit, or to traditional authority, than from a due consideration of the subject. He reported four cases of his own, with one successful. His general conclusions were distinctly favorable to the operation. Again strong objections were raised against it.

In 1870 M. Brown-Sequard upheld very strongly the theory that death, after fracture of the spine, is usually due to the effect of continued irritation of the cord by pieces of broken bone, and not to the results of a partial or complete section of this nervous center. He quoted the clinical history of many cases, to prove that

section or even crushing of the spinal cord had not proved fatal, and emphasized the fact that in animals death is rarely caused by complete section of the cord in the dorsal region, while they die as quickly and as often as men after fracture of the spine, if the broken pieces are not removed. He believed—first, that the laying bare of the spinal cord was not a dangerous operation; second, that death after a fracture of the spine is usually due to the effects of pressure, or of excitation of the spinal cord, and is not the result of a partial or complete section of that organ; third, that reunion might take place after a wound of the spinal cord, so that its lost function may return; fourth, that the removal of some parts of the vertebra may be followed by a production of new bone. In spite of this announcement an interval ensued with very few reported cases.

In 1870, a surgeon of Boston operated upon two cases—both resulted fatally, as did one operated upon by E. R. Willord in 1871, and one by Lucke in 1880.

Stemen of Indiana, 1883, reported three operation cases—one relieved, one fatal in eight days, one not benefited.

Dr. John Ledell, Vol. IV., Int. Ency. Surg., quoted Ashhurst's Statistics and recorded statement of Professor Ere, of Nashville, to the effect that laminectomy is one of the most difficult operations in surgery, if not impracticable, and concluded that it was unjustifiable because it offered no reasonable prospect of improving the patient's condition in *any* case, while on the other hand there was *always* reason to fear that it may increase the chances of a fatal termination.

In 1884, Dr. Halstead, of New York, operated on one case, and with the aid of a hook reduced a forward dislocation of

the twelfth dorsal vertebra; patient died seventeen hours after.

In November, same year, Dr. E. L. Heyes removed arch of twelfth dorsal; patient died five days after.

In 1885, service of Dr. William MacEwen, the arch of the twelfth dorsal was found fractured and depressed; operation eight weeks after; one year after patient walked without support.

In 1886 Robert T. Morris reports a patient who, as the result of a fall upon the head, had paraplegia below the neck; two years and three months after, laminae and spinous process of the seventh cervical vertebra was removed; no improvement; ten months later autopsy; extensive disease of cord found.

In 1886 Dr. Carl Lauenstein, of Hamburg, reports removal of arches of last dorsal and first lumbar vertebra of patient who was injured five weeks previously with complete paraplegia; plaster jacket had failed to give relief; six months later patient able to walk; incontinence had disappeared. He reported quite recovered. To determine whether such improvement might not have taken place with operation, he reviewed the published reports of similar cases and studied them with special reference to paralysis of the bladder. The relief of this condition is of much importance, for cystitis is the most formidable of all the secondary symptoms. He found that out of fifty-three cases of so-called "cure of fracture" of the spine there were fifteen instances of spontaneous restoration of the functions of the bladder and rectum. The shortest interval between the date of accident and that of complete restoration of the functions of these organs was a few hours and the longest eight weeks. In six cases, treated by Lauenstein, no spontaneous improve-

ment of the bladder was observed after long intervals.

It is concluded, from these returns, that when, in cases of compression of the cord from fracture, the functions of the bladder are restored, it usually takes place after a brief interval and when there is no improvement in the course of ten weeks, any subsequent change for the better in the condition of the bladder can hardly be anticipated.

In the case reported by Dr. Lauenstein the bladder symptoms, just before the operation, were increasing in severity. Lauenstein would not operate in a recent case of injury to the spine, for the reason that occasionally the symptoms of paralysis disappear spontaneously in a few weeks.

Since the introduction of antiseptic methods into practical surgery, and prior to 1887, only four cases had been reported of operative interference for the relief of paralysis from injury to the spine. Out of thirty-one cases, collected by Warner, of operations performed in the pre-antiseptic era only six patients recovered from the effects of the operation.

These results cannot be brought forward to discredit the operation, because the cases selected were of the most extreme gravity and the operation without antiseptic precautions opened the way for bony and meningeal infection, thus increasing the dangers of the operation, which at the present time can be largely eliminated.

An operation cannot be expected to be of service in those cases in which the patients fall from great heights, breaking the spine in such a way that the upper part overshoots the lower, cutting the cords in two as though by a pair of scissors. This is obvious, but often the

diagnosis is obscure, although the X-ray assists materially, and it is a matter of pure speculation whether the paralysis is due to pressure of broken arc, or dislocation, or both, or possibly from blood-clot, or complete division of the cord.

Cases of spinal fracture are, in their results, some of the most sad and disappointing that can be met with in practice, for even when life is saved the after condition of the patient is, to say the least, almost always unsatisfactory. Seeing the doubt that usually surrounds the precise nature of the injury, and knowing what an unfavorable future lies before the patient, the surgeon is surely justified, in every case, in urging upon the patient the propriety of an exploratory operation, in the hope that the condition found, on exposure of the part, may be relieved.

As the membranes and substance of the brain are liable to become inflamed when they are wounded in any manner, so the membranes and substance of the spinal marrow, when similarly injured, are liable to become inflamed: (1) because the anatomical structure is identical in both; (2) because they extend continuously from one region to the other, continuity of each structure being preserved intact throughout; (3) because those inflammations which are essentially diffusive spread readily from one region to the other—from the spinal cord to the cranial cavity, and vice versa.

Cases of Traumatic Spinal Meningitis and Myelitis have not been recorded as often as Traumatic Meningitis and Cerebritis, because postmortem examinations have much less frequently been made in the former than the latter injuries.

Laminectomy is a recognized operation and a perfectly safe one, a description of which you will find in any operative sur-

gery. I make a single straight incision over the spinous process in the median line; I myself see no particular advantage in the U-shaped and lateral skin incisions; this is simply a matter of taste and should be left with the operator.

It has been shown that two or three arches may be removed without detriment to the stability of the spinal column.

Laminectomy should be recommended on physiological grounds. Recovery may take place after a limited, depressed fracture of the skull (but no one would think of leaving such a condition to nature) without elevating the depressed portion, because in the brain the pressure is exerted over gray ganglionic matter, of which limited parts may be destroyed without permanent loss of function in the periphery, over which this ganglionic mass presides. But the spinal cord is a mass of conducting fibres, the destruction of a minute area of which represents a large area of brain matter thrown out of circuit and rendered permanently useless. Inasmuch as nerve fibres begin to degenerate within three days when divided, laminectomy should be performed within that period; for though paralysis from pressure of the cord may exist for a much longer period and yet be recovered from, thus showing the pressure to have been not too destructive of the fibres of the cord, yet, if under these same conditions, the pressure had been relieved by operation much better results can safely be expected.

It has been said that if the cord is severed death is certain. This is not true, as is illustrated in one of my cases, to which your attention will be called later.

It has been shown by Brown-Sequard, Eichhorst and Nannyn that in animals the spinal cord *can* be divided, and physio-

logical regeneration return to such an extent that voluntary movements could be executed. That this can take place in man is also illustrated by my Case No. IV., and in another case operated upon by Dr. F. T. Stewart, of Philadelphia, who sutured the cord (Phil. Med. Jr., June 7th, 1902). In reviewing this case the editor (Boston Med. and Surg. Jr., June 26th, 1902), says: "Is it conceivable that five days after approximating and suturing the spinal cord, regeneration should have taken place sufficient to give rise to distinct sensory reactions in the legs?" Whatever evidence there may be to show that the cord regenerates at all after injury, there is certainly none at hand to demonstrate that cut nerve fibres could transmit impulses at the end of five days. The observations made at the time of injury and those five days after cannot be reconciled; either the cord was not severed or else the sensory phenomena was wrongly interpreted. Although Dr. Stewart had three witnesses, the editor says "this is impossible—they must have been mistaken." My experience confirms the position of Dr. Stewart. To proceed with the review: After five days the patient continued to improve both sensation, motion and control of the functions of the spincters, and after sixteen months the patient was able to stand. This the editor also doubts, for he says: "Inasmuch as the cord was seen at operation to be entirely severed, therefore partial recovery which took place must have been due to the regeneration of spinal axones. If the premise is correct the conclusion is certainly justified, but we are forced to doubt the accuracy of the premises. The case proves too much; to draw together, by suture passed through the two ends of the cord, and establish conductivity on

the fifth day is too subversive of physiological and pathological knowledge to permit of unreserved acceptance. The case is of great interest as a contribution to spinal surgery, but it must be received with much caution by all physicians who aim at scientific accuracy." Again I wish to say that my case No. IV. corroborates the premises of Dr. Stewart, notwithstanding the comments of the editor to the contrary.

Int. Surg., p. 799, Vol. IV., records a case in which cord was severed by a chisel—dorso lumbar region—reaction after forty hours, catheterization eight days, sensation five days after; imperfect use of limbs on fifteenth day; after five years still walked with crutches. Also page 800, Feb. 4th, cord severed by point of weapon, 9-10 dorsal; Feb. 20th, slough; April, voluntary motion returned to both limbs January 15th walked with cane; one year, walked long distances without aid; cured.

CONSIDERATIONS.

1. That, considering the hopelessness of spinal fractures when treated, almost any risk is justifiable.

2. It should be our duty to operate in every case, seeing we may possibly do some good and certainly, if proper antiseptic precautions be taken, we can do no harm.

3. When, even following traumatism of the spine associated with paraplegia, an operation is indicated to determine whether the paralysis is not due to bony pressure, incapable of spontaneous relief.

4. Time. The operation should be deferred no longer than the recovery from the original shock demands. If needed at all, it is needed early; it will be easier to reduce displacements and remove broken pieces of bone than after bony union in false positions, and further, for the

reason that softening can and does occur, from pressure, at the end of forty-eight hours.

CASE I.

Fracture, dislocation of tenth and eleventh dorsal vertebra. Oct. 28th, 1896. Charles Holman, young man, a miner, who was sitting on the back of the skip riding to surface, at the Wolverine Mine. As he approached the landing he stooped or leaned forward to pass under the timber, which is designated the collar of the shaft. The distance between the top or back of the skip and the timber was fourteen inches actual measurement. The timber caught him, as he stooped, about the seventh cervical vertebra, and as the skip ascended he was doubled up and dragged through; he fell in the skip, was picked up and taken to the Tamarack Hospital. Examination revealed a fracture dislocation of the spine at the tenth and eleventh dorsal vertebrae; he was totally paralyzed below seat of injury.

Two days after the injury he consented to an operation. An incision, six to eight inches long, over the seat of injury, revealed a fracture dislocation of the tenth and eleventh dorsal vertebra, with rotation to the right of the lower segment, and forward luxation of the body of the eleventh dorsal vertebra. The arch was pressing on the cord. The spinous process and lamina was knawed away, also the facets, which enabled the vertebra to be rotated back in line, and relieved pressure. The cord was exposed about three-fourths of an inch, a bent probe was passed into the canal above and below; no further compression was found. The wound was closed and patient put in a plaster jacket, which had to be cut open, in front, a few hours later, because it interfered with breathing.

For the first five or six days after the operation the patient suffered very much with colicky pains in the abdomen, cystitis improved with washings, and the urine became acid in a few days; the bed sores, which were forming, became very much improved; sensation and motion gradually appeared, and improved rapidly. Highest Temp. $99\frac{1}{2}$ and P. 110. From this time on he steadily improved; two years after the operation he walked six miles. He still used a cane at that time, but he wrote me that it was more from habit; that he really did not need it.

CASE II.

On Oct. 13th, 1894. Richard Beckham, aged 30, employed at the Quincy Mine:

While stooping forward was struck in the back by a falling rock, breaking his spine in the region of the second lumbar vertebra. He lay helpless in bed, completely paralyzed, for six months. He then received electrical treatment for six months; no improvement. He was then taken to the Houghton County poor farm where he remained for one year. At the end of two years and two months he had slight sensation of the lower extremities, and a slight swinging motion, but no strength of the legs. Obstinate constipation, periods of distressing vomiting, almost, if not complete, paralysis of bladder and rectum; was able to sit in a chair.

I saw the case in consultation with Dr. Lawbaugh, Dec. 15th, 1896. Operation, solicited by patient, recommended and accepted. We operated upon him four days later. Median incision over spinous process, cord exposed for about two inches, forward displacement of the body of one vertebra caused compression under the arch of the adjacent vertebra.

The pressure was removed by cutting, with ranguer forceps, the bone of the arch that compressed the cord.

The partial dislocation of the body of the vertebra could not be reduced. Condition of spinal cord, above seat of compression, was normal in appearance. The cord at and below seat of pressure was atrophied (smaller) and different in color, relieved from all pressure as it lay in the partly new canal, made by cutting away bone from all points of pressure. Plaster cast applied after closing the wound with silkworm gut; no drainage except fine strands of silkworm gut. Recovered from operation without a bad symptom. Very marked improvement of rectum and bladder, over which he has perfect control. Some improvement in motion, and strength of lower extremities. He cannot walk, but propels himself in a wheel-chair, and earns his living on the street corners selling trinkets. Is in perfect health, is cheerful and thinks life is still worth living.

Inasmuch as the injury was not as extensive as in Case I, and being in a much more favorable location (the second lumbar vertebra), and because of the improvement noted after the lapse of two years, we are constrained to believe that if this case had been operated upon at the time of the injury, better results might have been reasonably expected.

CASE III.

Mr. Sullivan was operated upon.

I cannot find my notes of the case, so that I cannot report authoritatively, but as near as I can recall the fracture also occurred in the dorso-lumbar region. The facet articulations were chiseled off and pressure relieved; three of the arches were removed. We had him in the hospital for several months—no improvement worth

mentioning. He was taken home to his residence. In handling him, at home, something happened, for he died suddenly.

CASE IV.

August Brink. Injured at Tamarack Jr., Dec. 29th, by falling rock. Operated on three hours after injury.

I desire to call your special attention to this case, because the spinal cord was severed completely, except for a strand or fibre about the size of a pin in diameter, and ends of cord separated about one inch. Drs. Gregg, Rupprecht and King were present, also two medical students, all of whom can bear out my statements as witness to the facts.

Complete paralysis below seat of fracture, dislocation and fracture at juncture of tenth and eleventh dorsal vertebra. The ligament attached to the tenth and eleventh spinous process was severed and the arch separated so widely that the spinal canal was laid open and cord exposed. The articular process of the tenth and eleventh vertebra was removed by the chisel, to assist in reducing the dislocation, and also with a view of bony union. Digital examination revealed fracture of the body of the vertebra. Wound closed with silkworm gut, few strands of silkworm gut for drainage; dressing and plaster jacket.

On day following the operation, sensation a short distance below the pelvis.

One week after, sensation present to ankles, better on right than left.

The hospital daily record, between Dec. 29th and Feb. 1st shows a pulse range of 56 to 80, T. 98 to 99 3-5.

The bladder was irrigated every eight hours.

Condition of patient Feb. 1st, at which time he insisted upon being removed to his home: General appearance,

anaemic, muscles flabby, legs, sensation throughout; motion in adductions of thigh; muscles atrophied; toes flexed.

Left leg—Sensation present, but to a less extent than right. No motion, atrophy marked, small ulcer on tibial surface.

Large deep bed sore over sacrum, 3½ and 3 inches; granulations healthy; pain on pressure in region of left kidney; incontinence of urine and feces; cystitis.

He began to improve very rapidly. During the second month the bed sore healed, and he soon regained partial control over bladder and rectum.

One year after. Evacuates his bladder not oftener than eight hours; is constipated, but has voluntary action of bowels; can locomote, I cannot say walk, with aid of crutches. (It is a wobbling gait, but he can get along fairly well with crutches). Can stand alone with hand resting on the table to steady himself. Is bright and cheerful, perfectly healthy and is getting stronger in his legs every day. He looks forward to a complete recovery.

THE EFFECT OF ANESTHESIA UPON THE BODY TEM- PERATURE.*

W. H. MORLEY,

Ann Arbor.

For a long time surgeons have recognized that a varying amount of body heat is lost while a patient is under anesthesia. A number of devices have been employed during the stage of recovery to counteract this radiation. The placing of the pa-

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tients in a warm bed, and the packing of a liberal supply of hot water bags around them, are perhaps some of the more important. Precautions also are taken before anesthesia to prevent the escape of body heat, by providing a warm operating room and by wrapping the arms, legs and chest of the patients with lint and bandages.

Numerous theories have been advanced concerning the cause of this loss of body heat during anesthesia. But it is only within the last few years that a plausible explanation has been made. In 1880 Kappler, in an exhaustive work on anesthesia, showed that the lowered temperature was due to the effect of the anesthetic. Other investigators, by observations both upon man and animals, have proved since that his deductions were correct.

My observations were made with ether upon forty-six patients connected with the Gynecologic service of the University Hospital. The method employed was, in brief, as follows: The rectal temperature was taken and recorded every three hours on the day prior to, and every three hours on the day of anesthetization. As soon as the stage of complete anesthesia was reached, the rectal temperature was taken and the reading recorded. Readings were next made every fifteen minutes, while the patient was under the influence of the anesthetic. After the inhalation of the anesthetic was stopped, the rectal temperature was taken every fifteen minutes for one hour, then every thirty minutes for two hours and finally, every two hours for sixteen hours.

Only the best quality of Squibb's ether was employed in anesthetizing the patients, and the total amount used in each case varied from eight to fourteen ounces.

The average amount was about eleven ounces. After the stage of complete anesthetization, the prolongation of the anesthetic seemed to have no direct effect upon the temperature, other than to keep it below normal. Nor did the temperature curve vary directly with the amount used. As soon as all muscular activity ceased, the temperature was lowered, only to rise when the muscular action returned during the stage of recovery. The ether was administered by the drop method through an Allis inhaler. All patients, one-half hour previous to anesthetization, were given a hypodermic injection of atropia (gr. 1/180) and morphia (gr. 1/6), to prevent a hypersecretion of mucus from the respiratory tract. While the observations here recorded were made with ether only, it has been shown by Kappler that chloroform has the same effect as ether, and lowers the body temperature.

The temperature of the operating room varied from 80° to 85° F. No anesthetic was administered when the temperature was below 80° F., but its administration was postponed until the room could be heated properly. All patients, previous to anesthetization, had their limbs, chest and upper abdomen securely wrapped with lint and bandages to prevent as much as possible the loss of body heat by radiation. Only those regions necessary for careful aseptic and operative technique were left exposed.

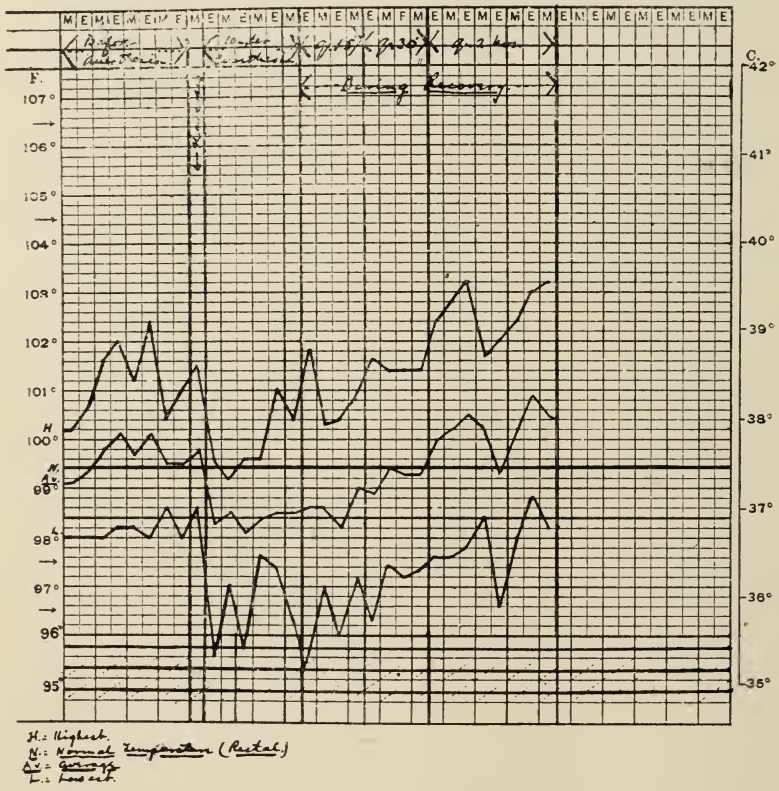
The time of anesthesia varied from fifteen minutes to two hours and twenty minutes, according to the nature of the operation or the examination. But, aside from the continuance of the lowered temperature curve, no apparent change was noted from prolonged anesthesia, and a greater amount of anesthesia did not cause

a corresponding increased lowering of the temperature.

Anesthetics were administered forty-six times, of which forty were for operations and six for examinations. Twenty-six of the operations were laparotomies varying from complete hysterectomies, bilateral salpingo-öophorectomies and myomectomies to hysterorrhaphies and appendectomies. The remaining fourteen operations

much as where the administration was prolonged for two to three hours.

The curves plotted on the accompanying chart, to a large degree, are self-explanatory. The curves of the preanesthetic period show a fairly constant normal rectal temperature, except where, from the nature of the disease, a rise of temperature was to be expected. An interesting fact was the initial rise of tem-



were vaginal in character, varying from vaginal celiotomies to simple dilatation and curettage. In eleven cases both abdominal and vaginal operations were performed. The duration of the anesthesia in the six cases anesthetized for an examination was from fifteen minutes to one-half hour. In these cases, where the anesthetic was administered for a short period, the temperature was lowered as

perature during the first stage of anesthesia. This initial rise was found to vary directly with the amount of the patient's struggling during the excitement stage. The increased muscular action at this time evidently caused an increased heat production. After complete narcosis the temperature fell to below normal (99.4°) and, with an alternating rise and fall, remained below normal until

three hours after the inhalation of the ether was stopped. From this point a slow rise of the temperature curve took place, due in all probability to some action of the ether upon the tissues and cells of the body, for it was observed during the recovery stage, when ether was administered for an examination only.

Assuming that the normal rectal temperature is 99.4° (one degree higher than the normal mouth temperature), and selecting the highest reading, the lowest reading, and computing the average reading at each point, I was able to plot the various curves, as shown on the accompanying chart just described. The many interesting facts to be noted, from a careful scrutiny of this chart, may be summed up as follows:

1. There was a fairly constant temperature curve before anesthesia, except where a high temperature was to be expected from the nature of the disease.

2. An initial rise in some cases, due in all probability, to increased muscular action during the excitement stage.

3. A sharp fall in the temperature during the next fifteen minutes.

4. An alternating rise and fall of the temperature during the period of anesthesia, the average readings, however, being below the normal rectal temperature (99.4°).

5. The continuation of the average readings below normal for three hours after the anesthetic was discontinued.

6. A slow rise of the temperature curve during the last period, when the rectal temperature was taken every two hours.

How the anesthetic acts within the body and causes a lowering of the temperature is still a question of some speculation. Some investigators claim that the anes-

thetic dilates the skin vessels and increases the heat output, while at the same time there is a lessened heat production from diminished muscular movement. Others state that the direct effect of anesthesia upon the tissue lessens the heat production. The former view seems the more tenable.

Kappler, in his observations on twenty cases, found that ether lowered the body temperature from 0.3° to 1.5° C., and in thirty cases the temperature was lowered by chloroform from 0.2° to 1.1° C.

Allen reached the following conclusions from observations made upon thirty-five dogs and eighty patients:

1. Dogs lose heat in a marked degree under prolonged anesthesia in a room of ordinary temperature, e. g., 65° to 75° F.

2. This loss of heat may be prevented largely, if not entirely, by carefully covering the animal to prevent the radiation of heat.

3. The temperature actually may be increased under anesthesia by covering the dog and at the same time surrounding it with hot water bottles.

4. That these changes in temperature are due to anesthesia seems evident from the following facts: (a) that the changes in the temperature of dogs without anesthesia were very slight; (b) that the variations in temperature under anesthesia bore a direct relation to the conditions under which the anesthetic was administered, viz., whether the dog was covered or uncovered, and in addition was or was not surrounded by hot water bottles.

5. The tendency of the temperature, after cessation of the anesthesia, usually was to return to normal, no matter whether it had been above or below that point.

6. Upon patients there was a loss of body temperature from 0.2° to 2° F.; the latter, however, was very rare. The average was about 0.6° F.

Hare in thirteen cases reported an average fall of the body temperature of 2.5° ; a maximum fall of 4.4° , and a minimum of 1.2° F. In another set of thirteen cases he observed an average fall of 2.32° , with a maximum fall of 3.15° , and a minimum of 0.8° F. He concludes that the fall of the body temperature is due (1) to the anæsthetic, and (2) to the operation.

From a study of previous work on this subject, together with the results of my own observations, the following conclusions seem justifiable:

1. Anæsthesia (ether) lowers the body temperature.
2. This lowered temperature is due to increased heat output through the dilated skin vessels, and to lessened heat production from diminished muscular movement.
3. Stringent precautions should be taken to prevent loss of body heat by having the patients well protected with lint and bandages, and by having a warm operating room.
4. Many of the so-called post-operative pneumonias are due to the chilling a patient receives while under anæsthesia.

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CONGENITAL DISLOCATIONS OF THE HIP REDUCED BY FORCEFUL MANIPULATION.

ANGUS McLEAN,
Detroit.

Probably there is no subject in general surgery that has occasioned so much discussion the past year as has the revival of the mode of reducing congenital dislocations of hip by the so-called bloodless method which has been brought forward by Prof. Lorenz, the noted Austrian surgeon.

By congenital dislocation of hip we mean one of the head of the femur occurring in uterine life; those occurring at birth should be classed among the traumatic. The cause of this affection will remain more or less obscure until our knowledge of the development of the os innominatum and head of femur in uterine life is more thoroughly understood. It would seem more probable, however, to be a defect in the development of the cavity of the acetabulum than the ligaments which hold the head of the femur in place.

The acetabulum is formed by early union of three bones, viz., ilium, ischium and os pubis. Some defect in this development might occasion or permit of the displacement.

Similar defects of development are noticed in other portions of the osseous system—cleft palate, etc.

For some unknown reason girls are more commonly affected than boys.

Erichsen, however, states that a cause of this condition being more frequent in females than in males is due to the fact that during the fifth and sixth month of foetal life there is a greater broadening in the pelvis of the female foetus and also

the bones of the pelvis of the female are of more delicate structure. Heredity predisposes to this condition, the writer having seen two sisters during the last three months with bilateral dislocation. This dislocation is most always upward, the head of the femur resting on the dorsum of the ilium.

This defect may not be noticed until the child begins to walk. Where a double dislocation exists there is little difference in length of the extremities; in a unilateral dislocation there is shortening of affected side with the toes rolled inward and a prominence of superior gluteal region and lateral wobbling when child attempts to walk.

In the bilateral form we have a double prominence of the superior gluteal region and the characteristic gait with lordosis.

It has been found that after a child has reached the seventh year it is unadvisable to resort to forceful manipulation method alone, because the adhesions have become so firm as to make liable the fracture of the head of the femur if sufficient force is exerted to break them and some severing of these firmer structures may be necessary.

The objects to be attained in this operation are first to overcome the resistance offered by the muscles and ligaments in bringing the head of the bone to its normal line.

Second: The replacement of head of femur in the acetabular cavity.

Third: Retention in this position.

The tissues offering resistance would be the adductors, tensor vaginæ femoris, posterior femoral, psoas, and iliacus muscles and the capsular ligament.

The method of reduction is as follows: Have the patient deeply anesthetized,

and placed upon table in recumbent posture, with a heavy piece of cloth passed between the thighs, coming up over the shoulder and fastened to head of table. The leg is grasped by two assistants, one at the malleoli, the other above condyles of the femur, and extreme traction maintained while operator grasps and steadies the head of the bone. During this time, extreme adduction, flexion and rotation are systematically performed until head of bone is brought down to normal line. The operator now maintains firm pressure over head of bone while the assistants adduct the thigh and rotate it. This movement may have to be repeated several times before the bone is successfully replaced. If the acetabular cavity exists the head of bone can be now felt to pass over rim.

The leg is placed at an angle of nearly 80 degrees and is held in this position by being placed in a plaster of Paris spica. This latter procedure is absolutely essential. If put up in the normal position it will make its way out of the cavity; also in this position the femur is directed toward the medium line and when the weight of body is thrown on the limb in walking it has a tendency to deepen the cavity.

This spica should remain for a period of two months when it can be removed, the joint inspected and another similar spica applied but with limb at a lesser angle. It is usually necessary to have the bandage applied for six months.

In connection with this I wish to report the following case:

On August sixth, mother accompanied by child of 2½ years visited my office, complaining that child could not walk and thought it had something the matter with its foot. On examination I found a well nourished child, perfectly normal

in all respects, except that it had a shortening of about two inches in left leg with prominence of superior gluteal region, which plainly indicated the trouble.

A skiagraph was taken the following day and is here shown in cut No. 1.

The patient was operated upon at Harper Hospital by the method described above.

One week after operation the patient was able to walk and had no pain after first twenty-four hours. The cast was removed at end of tenth week.

The child could move the thigh him-

self in any direction and was able to walk in erect posture without any perceptible difference in length of limbs. A second skiagraph was taken at this time and is shown by cut No. 2.

The second cast was now applied and child allowed to run about.

I have three other cases under observation in which I expect to have equally as good results.

This method appears to give all that could be desired in the way of results with little danger and inconvenience to patient.

CUT No. 1.



Taken before operation, showing head of femur up on dorsum of ilium.

CUT No. 2.



Taken ten weeks after operation, showing head of femur in proper position.
Head of bone not so well developed as on opposite side.

CUT No. 3.



Right Congenital Dislocation. Girl eight years old. Skiagraph taken at
Detroit Clinical Laboratory.

The Journal of the Michigan State Medical Society

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NOVEMBER, 1903

Editorial

KENT COUNTY SAFE.

That Kent County is safe was adequately shown at the meeting of the three County Societies of Kent, Ionia and Ottawa, comprising the fifth district, at Grand Rapids, Oct. 8th. In every way the gathering was a success. The attendance was large, at least 150 members being present; a carefully prepared program was well disposed of; and in the evening, over a good repast, the speakers gave vent to the feeling of good-will and mutual confidence which now pervades the medical profession. Too much credit cannot be given to the councilor of the district and his aides for the careful manner in which the meeting was dispatched, and our sincere thanks are extended to that beloved and most respected member of the profession of Grand Rapids, Dr. George K. Johnson, for his willingness to preside at the afternoon session. It is perhaps to their credit that men of such character do not fully appreciate the value of their presence at these gatherings.

The councilor of the district has consented to act as chairman of the committee on arrangements for the annual meeting at Grand Rapids next May, and we confidently express our belief that the favorable manner in which he arranged and

carried out the details of the meeting of the County Societies of his district gives promise of a good meeting for May, and that nothing will be spared to make the meeting, the second of the organized profession of the State and the first to extend over three days, a success. We feel that Grand Rapids, as the next largest city of the State, has awakened to its responsibility and appreciates that this second meeting is of even greater importance to the welfare of organized professional work than the recent meeting at Detroit.

Detroit extends hearty congratulations and assures her sister city that none other wishes her greater success.

THE SPIRIT OF RECIPROCITY ABROAD.

That the work of the organized profession is already bearing fruit is shown by the general interest throughout the United States in the effort to bring about practical reciprocity. An important meeting of the American Confederation of Reciprocating, Examining and Licensing Medical Boards, comprising the States of Wisconsin, Indiana, Michigan, Ohio, Iowa and Kansas, at which men of national prominence were present, was held at St. Louis, Mo., on the 27th instant. The result of their deliberations will be recorded in the JOURNAL. We may indeed express our pride that in this movement also our own State is at the front and that the Secretary of the Confederation is that worthy and indefatigable Secretary of the Michigan State Board of Registration in Medicine, Dr. B. D. Harison, of Sault Ste. Marie.

THE OPPORTUNITY OF THE MICHIGAN STATE BOARD OF REGISTRATION IN MEDI- CINE.

We believe that we are expressing the sentiments of the body of the profession of the State when we insist that nowhere would reform be more thoroughly appreciated than in the safeguarding by the Board of Registration in Medicine in this State of the educational interests of the profession. Much power has been given the Board under the Nottingham Act, and our acquaintance with the personnel of the same encourages the belief that it has the moral courage to insist upon a strict adherence by all the medical educational institutions in this State to the requirements of the act.

It is not necessary here to enumerate the reforms desired. The law and the condition of affairs are more familiar to the members of the Board than to us; but we can assure them from our knowledge of these conditions and a large personal acquaintance among the profession of the State that they will earn a debt of gratitude which the profession will not be slow to express. The body of the profession will support the Board by its moral encouragement in its enforcement of the spirit and the letter of the law. That act was passed to be carried out in good faith and the profession looks to the Board to enforce its mandates. Here are the members:

President, Joseph H. Cowell, Saginaw.
Secretary, B. D. Harison, Sault Ste. Marie.
William Bell, Belding.
John Kost, Adrian.
George E. Ranney, Lansing.
Henry B. Landon, Bay City.
Henry C. Maynard, Hartford.
Joseph B. Griswold, Grand Rapids.
Walter H. Sawyer, Hillsdale.
Oscar LeSeure, Detroit.

TO THE SECRETARIES OF COUN- TY SOCIETIES.

To the secretary of the County Medical Society we would again call attention that the success of the JOURNAL, which is as much his as ours, depends upon the prompt collection of dues *in advance* from the members of his county society, and the forwarding of the same to the secretary of the State Society to pay for the conduct of the JOURNAL; the prompt reporting of the meetings; prompt notice of enrollment of new members; of change of membership and address, and of everything of interest to the profession occurring in the county.

The editor desires to express his sincere thanks for the faithful manner in which many of the secretaries perform their duty in this respect. The fall has opened with excellent promise for the future, and it only remains for the secretary to collect promptly the dues, that the present membership may be retained, to assure the continued success of the JOURNAL. Let the officers and the members do their part and we promise improvement in the substance of the JOURNAL as rapidly as the finances permit. There are improvements under contemplation, but we are awaiting an assured income to inaugurate the same.

To retain his membership in his State and County Societies, the member must pay his dues in advance at the annual meeting of his County Society. This is the duty of the member and should be his pleasure, to assist thereby the work the profession has on its hands.

County Society News.

CALHOUN COUNTY.

A REPORT OF THE MEETING OF THE HOUSE OF DELEGATES OF THE MICH. STATE MEDICAL SOCIETY.

A. W. ALVORD, BATTLE CREEK.

(Delegate from Calhoun Co., Branch No. 1.)

The House of Delegates of the State Society convened July 10th, with President Bulson in the chair. Delegates from the majority of the county societies were present.

At this meeting reports of the work of reorganization in different parts of the State were presented and committees appointed to take up work in detail. Under the present method of organization very much time is taken up in general sessions by detail work. It is relegated to special committees, thus saving much of the time often required for detail work in general sessions.

After the appointment of the committees, the House of Delegates adjourned to meet again in the morning and listen to reports of committees. These reports you have already read in the Journal and they do not need repetition here.

I wish to call your attention to the fact that the entire work of this meeting of the society, aside from the sectional work, was accomplished in half of the time usually occupied, and was done much more satisfactorily, although this was the first meeting under the new Constitution.

The chief object of these medical gatherings is scientific work and, incidentally, a social reunion. This scientific work is done in sections and is much favored by the scheme of reorganization. Indeed, the sectional work has grown so much that a three days' session was ordered for next year, and, from all indications during the present year, the time will be most profitably spent.

The attendance on the meeting of the Society was much larger than ever before, showing that the reorganization scheme has resulted in a largely increased interest in the work of the societies as well as in an increased membership.

It is quite apparent to those who have observed carefully the workings of this first meeting, that there will be less legislation crowded through, and what legislation is had will be better directed for the good of the Society. It was the unanimous opinion of all the gentlemen with whom I came in contact that the Society had made a very decided step forward in the work already accomplished.

Great credit is due to the Board of Councilors who have done very much toward completing the

reorganization of county societies throughout the State and initiating new county societies in counties that had never been organized. The indefatigable labors of these gentlemen on the Board of Councilors deserve our recognition and thanks.

A new Board of Councilors was elected for two, four, and six years, with but little change from that already acting.

It is earnestly hoped that the interest taken in the county societies during the past year will be increased during the coming year, until all those who are practicing rational medicine in the State of Michigan shall be gathered into the State Society through the efforts of the county societies.

W. H. HAUGHEY, Sec'y.

CLINTON COUNTY.

The annual meeting of the Clinton County Medical Society was held in St. Johns October 1. The following officers were elected for the ensuing year:

President—M. Weller, St. Johns.

Vice-President—E. Schemer, Fowler.

Secretary and Treasurer—W. Hodskin Gale, St. Johns.

A. O. Hart, of Maple Rapids, was elected delegate to the next meeting of the Michigan State Medical Society. F. C. Dunn, of St. Johns, alternate.

M. Weller, of St. Johns, read an interesting paper, "The Way the World Pays its Debts."

H. D. Squair, of St. Johns, holds a clinic on "Nervous and Mental Diseases" at the November meeting of the Society.

W. HODSKIN GALE, Sec'y.

DELTA COUNTY.

The regular meeting of the Delta County Medical Society was held in Escanaba, on September 17th, and the topic for discussion was "Venereal Diseases." The only paper presented was by H. W. Long on "Education as a Factor in the Prophylaxis of Venereal Diseases."

The next meeting will be held at Gladstone, October 15th, and the subject of "Pelvic Diseases" will be taken up.

H. W. LONG, Sec'y.

EMMET COUNTY.

Meeting of the Emmet County Medical Society Wednesday afternoon, Oct. 7, members present being H. T. Calkins, G. W. Nihart, John Pedden, John J. Reycraft and G. E. Reycraft, of Petoskey, and B. P. Pierce, of Alanson.

Meeting called to order by President H. T. Calkins. Minutes of previous meeting read and approved.

Letter from Dr. Carrier asking for a paper by some member of Emmet County Medical Society on some topic connected with venereal diseases. Motion by Dr. Nihart, supported by Dr. Calkins, that John J. Reycraft write such a paper for next meeting, on Oct. 23. Carried.

Secretary was instructed to purchase supplies from Secretary of State Medical Society.

Discussion regarding fee bill followed and meeting adjourned till Friday, Oct. 23, 1903.

G. E. REYCRRAFT, Sec'y.

HOUGHTON COUNTY.

Program of the last meeting of Houghton Co. Medical Society, held in Hancock, Oct. 5th:

1. Immunizing with Antitoxin in an outbreak of Diphtheria.

Introducing a case after Thiersch method of skin grafting.

J. E. Scallon.

2. Paper—Chorea.

A. R. Tucker.

3. Scarlet Fever. General Discussion.

J. E. Scallon's paper and talk on the "History of Antitoxin" was very interesting. He said we should have antitoxin for immunizing purposes, as it is the cheapest method of treating an outbreak of diphtheria. He has immunized 30 in two outbreaks, using 750 to 1,000 units with good results, and he thought it was our duty as physicians to educate our boards of health along this line and show its economy when used as a prophylactic.

The paper on chorea was very complete and the program was freely discussed by the members present.

I expect to receive the annual dues at our November meeting.

JAMES HOSKINS, Secretary.

HURON COUNTY.

The third quarterly meeting of the Huron County Medical Society was held at Bad Axe October 12th, there being a very good attendance.

After the regular order of business was disposed of, three very interesting papers were presented by members, followed by general discussion.

PROGRAM.

"Puerperal Fever," Dr. Christmas, Harbor Beach.

"Leptomeningitis with Especial Reference to Epidemic Form," F. E. Luton, Kilmanagh.

"Pin in Appendix for Two Years," Daniel Couboy, Bad Axe.

Dr. Gifford, of Ubley; Drs. Oldfield, Davis and Christmas, of Harbor Beach; Drs. Couboy, Jackman and McDonald, of Bad Axe; F. E. Luton, Kilmanagh, and W. H. Pfaff, (on invitation) attended the meeting.

F. E. LUTON, Sec'y., Pro. Tem.

INGHAM COUNTY.

The regular meeting of Ingham County Medical Society was held in the council room of the City Hall, at Lansing, September 10, 2 p. m. President S. N. Culver, of Mason, was in the chair.

After the routine business was transacted R. J. Shank read a paper upon "The Surgical Consideration of Intestinal Perforation in Typhoid Fever."

W. W. Root, who was to open the discussion, sent his regrets. Drs. Hage, Campbell, A. D. Hagadorn, Culver and Freeland discussed the subject.

A paper was read by A. D. Hagadorn upon "Ophthalmia of the New-born." Discussion was led by H. A. Haze, followed by Campbell, Shank, and J. W. Hagadorn. The invitation of J. F. Campbell to the members of the Society and ladies to meet at his residence for the annual meeting in November was accepted.

L. ANNA BALLARD, Sec'y.

OPHTHALMIA OF THE NEW-BORN.

A. D. HAGADORN, LANSING.

The prevailing opinion as to the causes producing this affection in the newly born, is that it arises from the introduction of purulent discharges from some part of the vaginal canal, or genito-urinary tract of the mother, into the conjunctival sac of the infant during parturition. Ophthalmia uenatorum is to be classed among the pyogenic diseases. It usually consists in a purulent conjunctivitis. In the more severe cases there may be ulceration of the cornea and even perforation into the anterior chamber of the eye. The infectious nature of this disease is fully established beyond a doubt; and in the most severe cases, cases that give the physician great concern and call for prompt and radical treatment, the micro-organism generally found has been the gonococcus, but in the milder forms we find this germ absent, but some of the more common pyogenic germs may be found. The great frequency of purulent discharge from the os uteri in

pregnant women is admitted, hence, it is easy to understand how these discharges could come into contact with the eyelids during the passage of the head per vaginam. Knowing the fact that healthy lochia will infect the eyes, producing a catarrhal inflammation, purulent discharges containing pyogenic germs of a mild character, will produce a more severe type of inflammation, while discharges containing the gonococcus will produce the most severe and destructive type of ophthalmia, it stands in hand that the physician should make every possible effort by way of prophylaxis, to prevent its occurrence, and should be qualified to deal promptly with it when it unavoidably does occur. Prophylaxis is of the utmost importance as shown by Crede's Statistics. "In 1874 the frequency of ophthalmia in his lying-in hospital was 13.6 per-cent., while in the three years ending 1883 among 1160 newly born children, only one or two cases occurred." The method of prophylaxis, which he adopted, consists in dropping into the eyes of every child immediately after birth, one or two drops of a two per cent. solution of nitrate of silver. The general adoption of Credes' method, or some similar means of disinfection has resulted in a very great diminution in the frequency of ophthalmia throughout the world.

Prophylactic measures should be used in *all* cases, by every accoucheur, wherever there is any possible suspicion of the existence of gonorrhoeal contagium, and in all other cases the eyes should be thoroughly cleansed with boric acid solution, or some antiseptic solution.

The symptoms of ophthalmia of the newly born, are swelling of the lids, chemosis, copious purulent and sometimes bloody discharges from the eye or eyes, sometimes ulceration and sloughing of the cornea. The severity of the disease depends upon the nature of the contagium that produces it, also upon the treatment employed. In cases not due to gonococci the course is not severe, mild treatment and ordinary cleanliness will suffice to produce a cure in a short time, without any permanent harm to the eyes. Attacks due to gonorrhoeal infection should be treated promptly and energetically to avoid impaired vision or complete loss of it. The best statistics upon the cause of blindness in adults show, that 26 to 30 per cent. of such cases are due to ophthalmia in the newly born, the attack comes on in about 3 to 4 days after birth.

Treatment.—Perhaps the most important part of the treatment is, to keep the eyes clean and free from the pus, which accumulates rapidly under the lids, and will remain there unless forcible means are taken to empty them of it. The eyes

should be freed from the pus discharge every one-half to one hour, day and night, by separating the lids; also by washing it out with some antiseptic lotion, such as a saturated solution of boric acid, or solution of bismuth et hydrastis, which may be injected into the inner and outer angle of the eye, using a proper syringe or eye dropper, also every day instilled into the eyes one or two drops of a one or two per cent. solution of nitrate of silver, or even a four or stronger per cent. solution of the same remedy, followed by salt solution to neutralize the silver solution. If the cornea becomes involved or the internal structures, then the proper use of atropine is beneficial.

IONIA COUNTY.

Second annual meeting held in Ionia, October 15, 1903.

PROGRAM.

IO A. M.

President's Annual Address.

Review of Medical Organization in Michigan, Leartus Connor, Detroit.

Paper—Operation on Hæmorrhoids, G. A. Stanton.

Discussion—E. F. Beckwith.

Report of a Case Catarrh of Stomach, Chas. Bailey.

Discussion—W. H. Flint.

Paper—Aborting Typhoid, Fred Morse.

Discussion—W. L. Barnes.

Address—The Relation of Medicine and Law, Hon. F. D. M. Davis.

I P. M.

Business Meeting.

Paper—Vesical Calculus, J. F. Janes.

Discussion—F. W. Martin.

Clinical Lecture—Eye Studies Helpful to General Practice, Leartus Connor.

Clinic.

Introduction of New Officers.

Appointment of Standing Committees.

F. W. BRALEY, Sec'y.

JACKSON COUNTY.

Programme of the quarterly meeting, held October 6th, 1903, at Jackson, Mich.

PROGRAMME.

The Diagnosis of Insanity, and Commitment of the Insane. Herman Ostrander, Kalamazoo.

The Care and Treatment of Typhoid Fever.

C. H. Lewis, Jackson.

Discussion opened by F. W. Rogers, P. I. Edwards.

Obstetrics in General Practice, E. Arthur Martindale, Jackson.

Discussion opened by M. McLaughlin, E. N. Palmer.

Imperforate Anus, Addison L. Ambrose.

Discussion opened by A. J. Roberts, D. E. Robinson.

Dr. Ostrander pointed out that the general practitioner had a grave responsibility in the diagnosis of insanity—more especially in the incipient stages, when treatment of some cases effects a cure. In the majority of cases the diagnosis was apparent; however, no well defined lines between sane and insane. Must take into consideration the temperament, education and environment of the individual. In attempting an examination the doctor is confronted with obstacles. 1. He has not the co-operation of the patients. 2. Unjust attempts may be made by relatives to confine a person—if illegally confined the doctor is liable to a suit for damages. Requisites for the doctor.

Familiar with potent factors:

(a) Heredity—not insanity only—but of epilepsy, inebriety, hysteria, tuberculosis in immediate family or collateral branches.

(b) Prenatal life.

(c) History of infancy, adolescence and puberty.

Examination of Patient—

Here the asylum doctor has the advantage of the examining physician, for they come to the former with diagnosis already made and he can bide his time for symptoms to appear, in the detection of which he is aided by trained nurses. Dr. Ostrander would suggest perfect frankness in dealing with patient—thus obtaining their confidence.

Physical Examination—

Anatomical imperfections and stigmata. Facial assymetry, pigeon chest and squint, missing and web fingers, nondevelopment of generative organs, nystagmus, stammering, and incontinence of urine, should be looked for. Test reflexes. Examine pupils.

Psychical Examination—

Patients very shrewd here—may be seeking admittance to asylum to prevent being sent to state prison. Feigned insanity seldom met with; Dr. Ostrander has never seen a case in 15 years' experience. In Michigan a patient upon being discharged from the asylum must still stand trial for the crime in question. Feigned symptoms appear abruptly, while almost all types of insanity ushered in with prodromes. There are also

marked disturbance of secretory and assimilative processes in the insane which could not be simulated.

Procedure of Examination (psychical).

Primary Intellectual Processes.—

Sensation: Quality, intensity.

Perception: Ideation, memory, judgment and reason.

Emotional Processes: General tone of feeling. Physical, mental.

Ethical Attitude toward self. Attitude toward environment.

Psycho motor: (Ability to self control.) Voluntary impulses, inhibitory impulses, higher reflexes.

Law requires the physician to answer: 1. Is the patient insane? 2. Is he a proper person to treat in the asylum.

Dr. Ostrander said many old persons (harmless and incurable) only took up the room and time of attendants in the asylum. These could be looked after in their homes.

Dr. Ostrander never says patient surely recover. Says—"Patient is of the curable or incurable type." About 30 per cent. recover of those committed to the asylum.

Kellogg says 70 per cent. would recover if placed under treatment sufficiently early—and here is the lesson for the general practitioner.

Dr. Ostrander then spoke on the government of the asylum—of the sixteen trustees—of their meetings—of the training schools in connection with the asylum, and of the different bases upon which a patient might enter the asylum.

CARE AND TREATMENT OF TYPHOID FEVER.

C. H. LEWIS, JACKSON.

Dr. Lewis outlined the general treatment of typhoid fever as a nucleus for discussion.

1. Prophylaxis: Dr. Lewis dwelt particularly upon the disinfection of excreta. He pointed out that the disinfectant should be in the vessel into which the excreta are received. The doctor preferred chloride of lime for the quickness with which disinfection is accomplished—(1 hour) while the solution of mercury requires 6 to 24 hours.

2. Lowering of Temperature: Dr. Lewis found the tub bath not a good measure to carry out in private practice. He thought the action of the heart was depressed by tubbing. Besides difficult to carry out in private practice. Dr. Lewis

likes the action of quinine 20 to 40 grains at night. Produces lowering of temperature and tonic effect. Fights shy of coal tar products. Doctor gets good results from aconite combined with digitalis and aromatic spirits of ammonia.

3. Antiseptic action in bowel: Calomel, $\frac{1}{4}$ grain doses every 2 or 3 hours until laxative action. Beta naphthol effective in doses of 5 grains every 3 or 4 hours. Nothing but praise for this drug.

4. Nourish system: Milk, the main reliance. May create intestinal disturbance, when should be partially peptonized. Egg albumen, expressed juice of beef steak, jellies, free use of water, fruit juice.

5. Sleeplessness: Bromides, chloral hydrate, from which doctor does not get depressing effect spoken of by some. Trianol, one of his favorites. Hypo. of morphine and atropine.

DISCUSSION.

F. W. Rogers, Jackson. Thinks general mortality lower than a number of years ago. We know more of pathology and hence more rational treatment. The desire for a specific, an old one, and searched for since differentiation of typhoid from typhus. Drugs play a small part in treatment. Dr. Rogers has used Novy's intestinal antiseptic in three cases. He did not get any rapid change, although used as directed. Noticed a marked eliminative effect upon the kidneys. He agrees with Dr. Lewis in regard to tubbing; likes the soothing effect of sponge bath. Feeding judiciously and a good nurse the best things in not killing the patient.

J. T. Main, Jackson. Much pleased with the paper and agrees fully with Dr. Lewis in regard to disinfection of feces, and the application of severe cold. Hemorrhage not the awful thing it has been credited with. Few die of hemorrhage. Typhoid fever cases fewer in Jackson this year than before in years. Few occurred where city water is used. Dr. Main has failed to find any germs in city water, while he considers no well safe. He obtained a pure culture of typhoid germ from a drilled well here in the city. Surface water will filter down by the side of the pipe.

E. N. Palmer, Brooklyn. Bored 27 feet into rock for a well on his premises in Brooklyn. Angle worms were pumped up in course of a week. Bored down 25 feet more, and even then doctor has the water analyzed each year. Thinks country physicians should instruct their families in having this procedure carried out each year.

OBSTETRICS IN GENERAL PRACTICE.

E. A. MARTINDALE, JACKSON.

Dr. Martindale discussed the duties of the physician during different stages of labor; the giving of chloroform and asepsis.

IMPERFORATE ANUS.

A. L. Ambrose, Jackson. Imperforate anus. Physician should be more or less familiar with these conditions and their treatment as they are emergency cases in a sense, and the life of the little patient will depend on his promptness and skill in rendering surgical aid. Wharton's classification as found in Keating was then given, and records of the following cases:

Case 1. Male child, entire absence of anal opening, and an elongated prepuce somewhat ballooned with fluid.

Operation.—Circumcision was performed. Then made an incision two inches long and one and one-half inches deep, care being taken to carry it back of the deep urethra. Passed finger into the opening and found rectum ending in a blind pouch. Anchor stitch was placed on the lateral sides of the rectal pouch. Rectum brought down, opened, and fastened by five silk sutures to the wound. Wound healed in 10 days. Some contraction in two months, but after dilatation boy had good control of bowel and no trouble in any way.

Case 2. Anus normal in appearance, ending in cul de sac, the bowel discharging from umbilicus. Refused operation, and death during the week; no autopsy.

Case 3. Female. No rectum. First operation was simply to open through the vagina by the family physician. Opening gradually closed up. Surgeon called and operation as follows: Incision in perineum bringing the gut down and stitching to artificial opening. Union not perfect, probably owing to adhesions from vaginal opening. Dr. Ambrose found after two months from operation the anal opening so nearly closed that only a uterine probe could be passed and bowel discharging from both vaginal and anal opening. Dilated with uterine dilator until a soft rubber tube could be passed and kept in place. Wore this 13 weeks, when opening contracting again. Tried hard rubber tube, massage and electricity. Still under treatment. Dr. Ambrose suggests larger primary incisions and dilatation every two weeks for the first three months.

DISCUSSION.

D. E. Robinson, Jackson. Has seen four cases of congenital malformations of rectum. In one

case parents would not allow operation. Autopsy showed absence of colon, and no union of primitive colon and small intestine.

Two cases of imperforate anus upon which Dr. Robinson operated, were not successful.

The fourth case showed occlusion three-quarters of an inch thick. He succeeded in bringing the mucous membrane down and suturing it to the skin. Complete success; no contraction.

R. GRACE HENDRICK, Sec'y.

LAPEER COUNTY.

The annual meeting of the Lapeer County Medical Society was held at Graham House, Lapeer, October 14th, 1903.

The following papers were presented::

Scarlatina—P. Stewart, Hadley.

Diphtheria.—J. V. Frazier, Lapeer.

Surgical Operation in Spielberg Prison, A. D. 1828; Translation from Italian for Lapeer County Medical Society. J. S. Caulkins, Thornville.

Some Tropical Diseases: Dhobie Itch, Beriberi, etc., D. H. Lamb, Owosso.

President's Annual Address: Phantoms. H. McColl, Lapeer.

Following officers were elected at annual meeting of the Lapeer County Medical Society: Hugh McColl, Lapeer, President; S. A. Snow, North Branch, Vice-President; Peter Stewart, Hadley, Treasurer; H. E. Randall, Lapeer, Secretary.

Abstract of President's address.

H. E. RANDALL, Sec'y.

PHANTOMS.

HUGH MCCOLL, LAPEER.

A phantom is something that exists in appearance, illusion, ideal figure, etc. When I ask a doctor to report a case or write a paper for a medical society, and he answers that although he may have had 30 years' experience in the treatment of diseases and in making diagnosis of diseases, he has not the time to report a case or express his ideas of a disease, he is laboring under a delusion, in other words he is a victim of a phantom. It is wonderful what the imagination can do in the formation of the mental phantoms and delusions. I will report a few cases of peculiar phantoms in women which have been under my observation and in which their physicians were led astray:

First case. Some 20 years ago Dr. Nash who resided here, requested me to see a woman to examine her for a diagnosis as to whether she

had an ovarian tumor. I found her in good health with the exception of an enormous abdominal tumor like many of the ovarian tumors we saw in those days. I noted at once that she was in good flesh and upon percussing the whole abdominal mass found it tympanitic. A short time after I again examined her under the influence of ether, I kept my hand on the abdomen and as she passed under the influence of ether the muscles softened and gradually the whole abdominal wall fell flat, when consciousness was returning the tumor again made its appearance. She afterwards went to Detroit where all preparations were made for an operation, but as soon as ether was administered, the whole abdomen fell flat again. She came back to Lapeer to be a pest to doctors and a nuisance to her friends.

Second case. One night I was aroused and summoned to a house where I was not the family physician. Arriving at the bed side I found that the woman was suffering very little pain and I quietly watched her for ten or fifteen minutes, but could not see anything indicating labor, I carefully examined her, and she asked me when she would have the child. I told her there was no possibility of that event occurring that night, and told her that she might have one in ten months if she did the best she could. Her physician called at her house at 8 and 10 A. M. and 4 and 10 P. M. I told her she was not pregnant notwithstanding the assurance of her family physician, and that doctor has had as many confinements in Lapeer as any one in it. The poor woman was insane for a time when she failed to make an addition to her family.

Third case. This was a similar one. In this case after an examination this woman considered herself pregnant about three months when she had a slight hemorrhage, and her physician advised her to go to bed, fearing she might have a miscarriage, and every month at the proper time she went to bed regularly for a week, and this was the ninth month, and her physician assured her that that morning she would be confined before another night passed. The nurse who had been with her for a month inquired when she would be confined, I told her I could not tell her when she would have a baby, that it was possible that she would have one in nine months. This woman was the mother of three children.

DIPHTHERIA.*

Dr. Frazier's paper treats entirely of some of the more difficult complications of diphtheria, and

*Abstract of Dr. Frazier's paper.

more especially sudden heart failure. The more common complications are slight irregularity of heart's action, spasmodic laryngeal cough, slight diarrhoea, neurasthenia, epistaxis, ulceration of tonsils, cerebral symptoms and albuminuria. Broncho pneumonia may develop at any stage of the disease. I had one case of epistaxis of great severity, and one case where bleeding took place into skin. The heart is the organ which in my limited experience has been most effected by the toxins of diphtheria. He reports three cases of sudden death due to paralysis of the heart.

First—Heart failure may occur while the exudate is still present in the throat, and before other symptoms of paralysis are present. Here it is due to the direct action of the diphtheritic toxins upon the nerve mechanism of the heart.

Second—Heart failure after the disappearance of the membrane, and during the time of other symptoms of paralysis. These cases may be due to either disturbed innervation or fatty changes in the heart muscles.

Third—Heart failure during convalescence and after disappearance of the membrane. It is then probably due to degeneration of the heart muscle or of the pneumogastric nerve. The early symptoms of heart failure may occur early or late in the disease, it shows itself by a rapid, irregular, or weak pulse, a certain dyspnoea but without cyanosis. After continuing for a few hours or even days, the patient rallies or gradually grows worse and finally succumbs. The point that Dr. Frazier makes in his paper is that in all cases that he has seen there has been present abdominal pain. In looking through the literature he has found but one author that speaks of it. A number speak of vomiting, but Frazier considers vomiting and abdominal pain, a precursor of failure. The condition is probably due to some involvement of the vagus nerve, probably a toxic inflammation. The presence of abdominal pain during an attack of diphtheria should always be looked upon with apprehension, and if accompanied by vomiting is in his opinion a sure forerunner of death.

SCARLATINA†

The greatest number of cases occur between 2 and 5 years of age, next between 5 and 10 and next between 1 and 2 years of age. The incubation period varies from 4 to 7 days in the majority of cases but in puerperal and surgical cases it is very much shorter. The temperature runs

up rapidly with a high pulse rate, and usually at the end of 24 hours the eruption begins to appear upon the lower portion of the neck and upper part of the chest, and in 24 hours more it takes upon itself the characteristic scarlet color, the eruption spreads rapidly, so that at the end of the fourth day the whole body is covered with it. At the end of the second to the fifth day we find the tongue denuded of older epithelium, and in that condition is called strawberry tongue. The complications of scarlet fever are diseases of the ear, nephritis and scarlatinal rheumatism. The urine is always of an acid reaction. After the appearance of albuminuria we have that of cedema rapidly followed by anasarca. Uremia is preceded by distinct prodromal symptoms of gastro-intestinal tract and nervous system.

Scarlatinal rheumatism most commonly effects the wrists and finger joints, but we have more serious results when the hip and elbow are involved. The period of incubation of scarlet fever, measles, German measles should be borne in mind when the case is first seen. Measles first come on the face and gradually spread over the body, the color is purplish, papular and crescentic. German measles first appear on the face, spread rapidly, color usually pale red, more or less elevated and not arranged in group as in measles.

The prognosis depends upon the nature of the epidemic, however, the epidemic may begin mildly and end as a malignant one, but as a rule the opposite holds good. The rule may be laid down that in no disease is prognosis more uncertain than in scarlet fever.

Treatment—At the present time we do not look upon fever as the all important symptom to be combated, and hydrotherapy is to be used in those cases where the temperature rises to 104 or higher, and in milder cases sponging with luke warm water gives us good results. The vomiting in the beginning may be controlled with lime water and milk equal parts, but as a rule the vomiting stops of its own accord, it requires no special attention. A good course of calomel tablets is an excellent laxative, but later in the disease salines should be used as less irritating to the kidneys. If nephritis occurs rest in bed and a milk diet are of the utmost importance, with plenty of water for its diuretic effect. If a cardiac tonic is needed tincture of strophanthus seems to combine the effects of a tonic with that of a diuretic. For the rheumatic complications the salicylates give good results. Local treatment of the throat should not be neglected. The after treatment should be tonic.

†Abstract of paper by Peter Stewart, of Hadley.

SOME TROPICAL DISEASES.*

Dr. Lamb was invited by the Lapeer Medical Society to be present as a guest, and read a paper on some personal observations of certain tropical diseases. Beri beri may be defined as a multiple neuritis characterized by sensory and motor paralysis and anasarca. He saw several cases in a prison in a town near Lingayen and showed several photographs of the different types of the disease, dry, wet and mixed. Numerous post-mortems were made and in all cavities was a large amount of serous exudate containing broken down blood cells. The spleen and liver were markedly engorged, he endeavored to make cultures from the spleen, liver, and serum, using agar-agar, rice water, etc., and all were negative as to any new micro-organism being found. The disease occurs among the natives using their nature food, rice. When this was substituted by the regular army rations and by rigid sanitary work the outbreak was soon suppressed. The death rate was practically 50 per cent.

The best results in malaria were secured by giving quinine in fifteen to thirty grain doses, seven to eight hours preceeding the chill after having ascertained the type of fever. Bromide of potassium in fifteen grain doses was given to counteract the nervous disturbances caused by the quinine. Quite successful was the use of the muriate of quinine hypodermically. The chief aim in the tropics is how not to get malaria by observing the rule that the plasmodium is always near the earth's surface and not usually going above three feet. The natives show their wisdom in building their houses in the tops of the trees. There is an itch, Dhobie Itch, existing within the tropics that I firmly believe should be placed as the leader; it is parasitic in origin, resembling barber's itch, it commences as a small vesicular eruption at first and rapidly spreading ring-like upon the surface and accompanied by intense itching. The disease is becoming quite frequent in this country. I have decorated my person with nitrate of silver, iodine, ichthyol, etc., to no avail, the only remedy I found is the following: Cleanse the parts thoroughly and dry and apply:

Red iodide of mercury, grs. 10.

Sulphur, grs. 30.

Vaseline, 1 ounce.

The disease causing more deaths in the tropics than any other is dysentery. A common expression of a nurse's ability is to ask what proportion of her cases keep down the ipecac. The patient is given a full dose of tincture of opium, followed

in half an hour by 20 or 30 grains of ipecacuhana and the free use of bismuth and salol. In the chronic cases irrigating the bowel with solutions of silver nitrate were the best. One case was relieved by the administration of papaya carica. A change from the south to the north or a sea voyage is also of immense value. Some cases would frequently recover sufficiently when sent back by the government to walk off the dock at San Francisco.

Bubonic plague is the most fatal of tropical diseases, the mortality being about 90 per cent. It is to be noted that deaths occur early and those which go to suppuration usually recover.

Papaya leaves are applied by the natives to wounds and there will not be a drop of pus. He used it in a case of tropical ulcer with gratifying results. I have yet to see the successful crossing of the American with the Filipino, the children were usually still-born. The bites and stings of the scorpion, tarantula and centipede are not usually fatal, but are some times very annoying.

MARQUETTE COUNTY.

The fall meeting of the County Medical Society was held at the Ishpeming Hospital, Tuesday evening, October 13th.

PROGRAM.

Diabetes—H. W. Sheldon, Negaunee.

Opening of discussion—O. G. Youngquist, E. H. Flynn.

Report of case of Gangrenous Appendicitis—A. W. Hornbogen, Marquette.

Opening of discussion—J. J. Vandeventer, W. S. Picotte.

Presentation of Clinical Cases.

H. J. HORNBOGEN, Sec'y.

MENOMINEE COUNTY.

THE DOCTOR'S FEE—WHAT IT SHOULD BE; HOW TO REGULATE AND HOW BEST TO COLLECT IT.

HENRY A. VENNEMA, MENOMINEE.

From time immemorial the public mind has been trained to look upon the doctor as a sort of public benefactor. A man whose sole business in life was to ameliorate human suffering and sympathize with human woes; an integral part of the family and with it to share the joys and the sorrows, the burdens and the cares that fall to the lot of all; a man of vast learning, infallible judgment and wonderful skill; utterly unselfish and regardless of his own personal comfort; a

*Abstract of paper of Dryden H. Lamb of Owosso.

man of endless endurance, ever ready, when the children were ailing or a new arrival in the family was slated, to respond with alacrity to the rap of the knocker on the door, light his lantern and saddle his mare, and through the darkness of the night, the rain and the snows, hie himself to the family home, to be indeed an ever present help in time of trouble. With smiling face to bid the little stranger welcome to this vale of tears, or with tear-dimmed eyes to watch the sufferer passing to the shore beyond. So much for the family doctor of a century or two ago as he is pictured out to us in the literature of to-day. O'er his faults and foibles, for he doubtless had them as we of to-day, we'll cast the broad mantle of charity, and take off our hats and bow our heads to him in reverence for his unselfishness, his devotion to his profession and the good that he has done.

But how about the doctor's family? Ah! that's another subject and evidently one with little of romance or poetry in it. The doctor was paid much as the preacher was paid. An occasional sack of meal, a jar of butter, or if the account was large, a quarter of beef, was supposed to supply his material wants and the generosity of his clientele was largely depended upon to keep the wolf from the door. His bank account was a secondary consideration. It was seldom balanced while he lived but 'tis probably safe to assume that owing to lack of compensation it suffered severely from chronic insufficiency.

While I have attempted to draw a rough sketch of the doctor of the past, a little overdrawn, it may be, in some particulars, yet, in the main, true, we cannot in justice to the profession of to-day, draw a comparison between the status of the medical profession of a century ago and that of the profession of the present. The medical schools of to-day are greatly in advance of those of even a decade ago, and the best schools of a hundred years ago are as nothing compared with the least advanced schools of to-day. The graduate of to-day knows more of medicine than Galen ever dreamed of. When we compare conditions to-day with conditions a hundred, fifty, yes even twenty-five years ago, we cannot help but be impressed with the fact that this is indeed an age of advancement,—an era of unprecedented progress. In the arts and sciences; in the commercial world. Intelligent thought and indefatigable industry has made its imprint on the age. As we look around us, we see on every hand accomplishments which, up to within a few years ago we would have considered absurdly impossible; but yet, wonderful as these things may seem and in reality are, towering high above

them all are the achievements of medicine and surgery. So much for what the doctor has done for the world and for humanity. What has he done for himself?

Ah! here comes the suggestion of selfishness, and we hesitate to tread for fear we are on dangerous ground; but surely, no one will lay the charge of selfishness at the doctor's door, because, in his untiring efforts in the interests of humanity, he stops for a moment to consider the material welfare and comfort of those dear to him and dependent upon him for support; the claims of family and of self. Because, with wise foresight, he looks forward to the time when the infirmities of age will be upon him; when later teachings and newer methods will lay his time-worn armamentarium on the shelf and he will have only the resources of age and experience to offset the energy and progressiveness of his younger brother; when his eye shall grow dim and his perceptions become dulled and his decreasing income shall force upon him the conviction that he is no longer the physician of twenty years ago, and that he is gradually being "shelved." In all candor and with the greatest respect for my senior brethren in the profession, is not this an experience with which most men, in all vocations in life are brought face to face sooner or later? Why, in the name of common sense and justice, should the doctor be charged with being mercenary; should the profession be charged with commercialism and dragged down to the level of a trade, because its members shall choose to recognize and consider its business aspect! Is this progress? Is it just and right? Far from it. It's rank injustice! A remnant of obsolete sentiment handed down to us from the dim and distant past. Is it a discredit to a man, that, because he's a member of the noblest profession in the world, he shall aspire to sustain his commercial honor by meeting, fairly and squarely, his financial obligations? Men prate about the dignity of the medical profession, and men, too, who pride themselves on their observance of professional ethics, who yet seem to have an utter contempt and disregard for man's obligation to man, in a commercial sense. Now, why should this state of affairs exist at all in our ranks? Is it because of a substandard moral tone or of any innate lack of honesty in the doctor himself? Far from it! Its this same old relic of a sentiment of the past, on the part of the public, that the doctor doesn't need any money; that he shouldn't even ask for it; that he should wait with patience until asked for his bill and then courteously should express indifference as to whether it should be paid then or the following year, or as to whether it should

ever be paid; and, strange as it may seem, many a doctor, for reasons which are not exactly clear to my mind, fosters this sentiment on the part of the public by responding to it in the manner indicated. Perhaps its a part of their training, as one might infer from an address recently delivered by a certain University President to the graduating class of a prominent medical college, and in part published in the Chicago dailies. Evidently, the temptation, on occasions of this kind, to "soar" and to express lofty ideals in the abstract, is strong upon the men who utter them. These sentiments appeal to the poetic in the mind of the public. The press heralds them far and wide, but they don't usually wear well and after the doctor has been struggling with the humdrum of every-day practice for a few years, he generally fails to recognize the poetry in them.

"The average man's life might be divided into four periods. The first 20 years might be termed the period of preparation; from 20 to 40, the period of struggle; from 40 to 60, the period of victory and after 60, rest." No fourth period for the physician. His struggle lasts, if he is able to walk, to see or to hold a pen until the grim reaper gathers him in. How nice it would be if a doctor could retire at 60, with honors and a competence and leave the path open for other and younger men. If, after a life spent in hard work, full of vexations, anxieties, discouragements and care, with not even the Sabbath to call his own, when the harvest is past and the summer is ended, he could welcome the evening of life and spend the remainder of his days in peace and quietude, with no longer any sordid care to mar his soul.

And why should not the doctor, if he survives the struggle, which many of us do not, for according to mortality tables the average of the lives of physicians is 56 years, why should not the doctor have an old age of ease and comfort awaiting him? I say and I emphasize it,—he has no one to blame but himself. With a very few exceptions, doctors are notoriously poor business men. During their first few years of practice, they usually make an earnest effort to keep track of their expenses and to collect their accounts, but its during just these years that the bad accounts creep in. It's the poor pay patients who usually are the first to call upon the new doctor. These accounts keep accumulating and his repeated efforts to collect them proving unsuccessful, and gradually a little more cash coming in, he grows careless about his accounts, not only his bad accounts, but his good ones as well, and he helps to sustain the reputation which doctors have for being poor financiers.

Ever ready to respond to a call for assistance, eager and willing to work, foregoing the ordinary pleasures and recreations of life uncomplainingly, when duty calls, he nevertheless remains poor, simply because he is careless of his fee.

Its not altogether what a man earns,—the business he "books";—its what he *collects* and what he *saves*, together with a judicious and prudent investment of his savings in other lines, which helps to provide a competency for old age. Most of us "book" a sufficient volume of business to amply provide for our needs and the needs and comfort of our families, if we were only paid for our services. Now, just one more reason why physicians should be better paid. We all know what a doctor's expenses are; we have to keep up an eternal show of prosperity; our expenses are usually much better able to keep up with our incomes than are our incomes with our expenses, unless we are exceptionally fortunate in attaining extraordinary skill and reputation along certain lines of work.—Surgery, for instance,—the reason is this: A physician can do nothing by proxy. He can undertake no more than he can do personally, and is entirely dependent upon his own individual efforts. Other men,—the farmer, the merchant, the mechanic and even the lawyer, successful in their pursuits, can increase their business to any extent by employing additional hands and superintendents. We cannot do this. When we steal away for a few days in pursuit of rest and recreation, our business is not only at a standstill, but it's apt to retrogress, for reasons which we are all familiar with.

The business affairs and accounts of the average physician are in a deplorable condition. People have been so long accustomed to paying the doctor only after all other debts were paid, that he has almost ceased to expect or look for anything else, and when he does send a bill, a month or so after his services have been rendered, he feels as though he ought to send a note of apology accompanying it, for he's pretty apt to be criticized for his action in sending a bill so soon, for many people seem to have an utter disregard for ordinary business methods and customs when dealing with the doctor.

Now let us leave this subject in the abstract for a little while, and consider the conditions which prevail in most of the smaller cities, but particularly in our own locality and which concern us individually. The subject of fees. What they are and what they should be; how to regulate them and how best to collect them.

In 1892, the physicians on the Menominee River drew up a fee bill, which starts off by stating

that "it is intended to guide rather than to govern members in making charges for services rendered to patients in average circumstances, under ordinary conditions." Now, what does this actually mean? It means that you have all the leeway you could possibly wish for; charge just as little or just as much for your services as you wish, and no one can say you nay. By the way, the object of this fee bill was to raise the scale of fees. How utterly it has failed to meet the purpose for which it was intended is shown by comparing the fees we get to-day, with the fees we got in 1892, during the panic, when everybody was hard up. They are practically the same. Our living expenses are higher now, taxes, rents, clothing, provisions, feed for our horses, everything is higher than it was then.

Mechanics and workmen in every capacity are better paid; their wages have increased and kept pace with the era of general prosperity, whereas we doctors are content to fall behind the procession and continue to plod along at the same old pace. From time immemorial, periods of financial depression and prosperity have followed each other; good times and hard times have alternated pretty regularly, and business in all lines, has suffered or thrived accordingly, but for the average doctor it has been pretty nearly a continual round of hard times.

We try to get a dollar for an office consultation; some of us never pretend to charge more than fifty cents or dispense a little medicine and charge a dollar for the whole. We get a dollar for a day visit; none of us get any more than this if the patient knows it, and some of us make seven or eight visits for five dollars and wait a year for our fee. We try to get two dollars for a night visit; many of us don't pretend to charge more than one dollar. We get no more, per visit, for a single visit than where a succession of visits is necessary. We get one dollar to two dollars for a vaginal examination and treatment when we ought to get no less than two dollars. We get ten dollars for a confinement case which keeps us out all night and some of us charge no more for an instrumental delivery than for a normal labor. Some of us will attend a miscarriage case and charge no more than for so many ordinary visits. We'll fall over each other in our haste to get at a fracture case and then take our chances on the result we obtain for our fee. When we do this, the result is often alleged to be bad and therefore the fee uncollectable. We attend to minor injury cases and charge no more for a dressing than for an ordinary visit or office consultation, and we furnish the dressings. We are ready, sometimes almost seem

anxious, to do major surgical operations and wait for the patient to get well and to work, for our fee. In these cases, however, we usually get our just deserts. Regardless of how skilfully the work has been performed or how perfect the result obtained, we seldom get more than a tirade of abuse for our pains, and we deserve all we get. The remark, once made by a prominent dental surgeon, that "a set of teeth never fits until its paid for," fits the case exactly, and the surgeon, who undertakes to perform an operation of any magnitude, without informing the patient and his friends as to the probable outcome as well as the possible danger attending the case, and without having a perfectly clear understanding with them as to the amount of the fee he is to receive, stipulating that all operations must be cash and that the operation must be paid for as soon as completed;—I say, any surgeon who will undertake an operation without having a perfectly clear understanding on these points, deserves to be beaten out of his fee and to be roasted and abused until he has learned the lesson so he'll never forget it. We seem blindly to go on the principle that, whether friends or strangers, all men are honest, until we have proved them by personal experience to be dishonest. Many of us pay dearly for our experience in more ways than one. But last and worst of all, I am told that some of us have made examinations for life insurance, consuming therein half an hour or more of our time, including an analysis of the urine, for the paltry sum of fifty cents. Talk about the dignity of the medical profession and hang your heads in shame!

It is not avarice to expect and to exact remuneration for services rendered, in keeping with the nature of the service.

Ours is a profession, not a trade. Let us not belittle it by ourselves depreciating the value of professional service, for if we do this, what else can we in reason expect from the public which we serve. Let us give our patients the best we are capable of, careful, conscientious attention, and charge them a fee in keeping with the character of the service we aim to give them. In this way we'll win their respect, we'll merit their confidence and we'll uphold the dignity of our profession.

Now just a word as to what our fees in this locality should and ought to be, with a few rules which we all ought rigidly to observe and which would keep many a wrinkle from our brow and put many a hard-earned, well-earned dollar in our pockets. Compared with many cities the size of ours—for we are no longer a hamlet—we are living in "a good town," a pushing enterprising town, our fees should be about as follows: One

dollar for every office consultation, one dollar and a half for rising at night, two dollars a minimum office charge for primary dressing of an injury when any stitches have to be taken or an incision made and \$1.50 for every subsequent dressing.

Ten dollars for every case of normal labor or ordinary miscarriage, including two subsequent visits. Fifteen dollars and upward for cases in which instrumental delivery or curettement is required. One dollar per mile, one way, in addition to the regular fee, for all visits outside of the city limits.

All medicines dispensed to be charged for at current drug store rates. Two dollars for first visit in the day time when only one visit is required. Two dollars and a half for night visits between 10 p. m. and 7 a. m. where only one visit is required. A dollar and a half for each and every day visit where a succession of visits are necessary with an optional discount of no more than ten per cent where a large number of visits have been made, unless, in case of poverty, when I believe it would redound much more to the physician's credit, if he will make out a bill at regular rates, receipt it in full and make the family a present of it; or let them make such cash payment as they think their circumstances will permit, and accept this as payment in full of the account. This will save him from carrying a lot of slow and perhaps bad accounts for an indefinite period of time; it will win for him the gratitude and good will of the family; he will have the satisfaction which comes with a deed of kindness done and, perhaps, in a measure, it may offset his short-comings, "when the roll is called up yonder bye and bye." To my mind the foregoing scale covers pretty well the subject of fees, and would be a very fair and reasonable adjustment of the matter for this locality,—the cities of Menominee and Marinette. The question of fees for surgical procedures must needs be left to the judgment of every man for himself.

The next question is—how to regulate our fees and how best to collect them. Aye, there's the rub. We have to deal here with two factions,—the physician and the public. We might here very wisely learn a lesson from the workingman,—the miner, the mechanic. He forms an organization, fully realizing that in union there is strength; he formulates a scale of wages, placing what he considers a fair value on his work. He presents this scale of wages to his employers for them to accept or reject as they choose. If accepted, all is well; he has bettered his condition just so much. He continues to give value received and there is a perfect understanding between employer and employee. If rejected, he quietly packs up his tools

and quits work. He bears no ill will toward the man who takes his place, at the stated scale of wages but he promptly frowns down the "scab." Now, I do not pretend, nor am I able to say how this new adjustment of fees can best be established, but it seems to me that the first thing we need is thorough organization and sincere, united effort and it can all be accomplished. We have organizations, but what do they do for us. We meet occasionally and discuss matters of scientific interest; we discuss sanitation; the water question; the prevention and treatment of disease, and incidentally manage to have a good time before we get through. It seems to me that if we can secure the sincere and hearty coöperation of every physician on "the River," the Menominee County and the Marinette County Medical Societies, by working in close harmony, can do much to improve the doctor's financial status. First of all, *we must be frank and have a perfectly clear understanding with the public*, whose servants we are. We must inform them that on and after a certain date the fees of all the physicians in the twin cities, will be changed to conform to the table agreed upon and I know of no way in which this can be accomplished except by publication and repeated publication in the local papers. Have this publication extend over a sufficiently long period to give the people ample time to get accustomed to the idea, and to discuss it among themselves and with us if they wish to, so that we'll not have to have any discussion or argument with them afterwards. We'll have a tussle. There'll be no question about that. It will be a good deal like weaning an infant from the breast and switching it off to the bottle, but in a little while they'll get used to the idea and the omnipresent law of compensation and equalization will overcome the friction and establish the change if we'll only firmly stand our ground. As I said before it is necessary that we should be united and sincere. It is not right that the many should suffer for the few. In discussing this matter recently with a fellow practitioner, he remarked that his practice was among people who could not stand the increase in fees. Now as a matter of fact we are all practicing among pretty much the same class of people, largely working people, who have not hesitated to demand an increase in their wages and almost without exception received it, and the only way I can explain the remark of my brother is, that either he is not in sympathy with the movement or that being a comparatively new man in the field, he has not become sufficiently familiar with the personnel of his practice to separate the wheat from the chaff; to differentiate between the acute and the chronic cases of im-

pecuniosity: for, as I have already remarked the wind is pretty apt to blow the chaff in the direction of the new doctor, and many people who have plenty of money to spend for personal pleasures are chronically hard up when it comes to paying a doctor bill.

Now, lastly, just a suggestion as to how best to collect our accounts, for here's a point on which I think most of us are a little lame, to say the least. It may be true that no one can collect his bill as well as the doctor himself, but how often does he do it? We are, nearly all of us, careless about this part of our business and the result is that many accounts, which should be good and collectable, if presented promptly and repeatedly if not paid, become unnecessarily old and the older they grow the harder they are to collect. We all know this to be true: our debtors know it very well and take advantage of the reputation we have for being poor collectors, to stand us off in the hope of evading altogether the payment of the bill. Now, we must get the dear public out of the notion that the doctors are "easy." I've had Mr. B's name on my books for a long time. He's a mechanic and well able to pay his bills, but the items of his account on my ledger are all on the debit side. His wife is taken sick—B, thinking that I might hesitate to refuse Mrs. A, who is one of my good patients and pays her bills, asks her to telephone for me to come to his house at once. She does so. I am a little delicate about telling Mrs. A, that I won't go because B, doesn't pay his doctor, and I simply tell her I cannot go,—perhaps I am too busy. She next calls up my neighbor Dr. C., who also has B, on his list and strange to say, though there is little sickness and business is abominably dull, Dr. C. is busier than I am, so she calls up Dr. D. in the next block. Dr. D. is a new man in the field; he doesn't know B, or his reputation and hurries away to attend B's wife and promptly gets a dose of the same kind of medicine which we are suffering the effects of. By the time Dr. D. gets tired of this treatment, there's probably another new doctor in town and it's his turn next. In cases like these, and they are not uncommon, we not only lose our fee, but we get no credit nor thanks for the work we have tried conscientiously to do, and we get unmerited abuse and often have all manner of unkind things said about us;—and so I say we ought to make this sort of thing impossible. It can be done, and I believe there's only one remedy for it and that is the "black list." Now, how can we get a "black list" which will be of any value to us and how can we get and keep our accounts collected up. We've tried various methods which have proved

of little value. Perhaps we've tried outside collection agencies and had occasion to regret it. Now here's a suggestion, a plan which would, I believe, prove practical and of much value to us. We must get down to some kind of system. It's our utter lack of system in our business that's ruining us. Why not establish a doctor's clearing house? Open an office down-town, employ a competent, reliable man,—not place the business in the hands of some lawyer who would make it a side issue, sure to be neglected; but employ a man of tact and ability; a hustler, with some knowledge of the law bearing on the collection of accounts; have him furnish suitable bonds and assume entire charge of this part of our business. Pay him, not with commissions, but pay him a stated salary per month. Turn in each month's unpaid accounts to him, on the first of each succeeding month, and let him classify them by means of a "Shaw-Walker card system"—one card for each name, keeping several doctor's accounts on the same card,—simply the amounts for each month. It is not necessary that the clearing house should have any knowledge of the nature of the services rendered. An itemized statement may be furnished by the physician when requested. Have regular clearing house statements, with each doctor's name and the amounts due him for each month in the year, mailed or presented on the first of each month or each quarter as agreed upon, and upon the backs of these statements, have printed the table of fees, the names and addresses of the doctors subscribing to it, together with the business hours of the clearing house and the request that all accounts be paid to the agent, or arrangements made with him for their payment. This statement alone may be sent for the first month or two; then if no attention is paid to these, a series of letters might be formulated, urging the settlement of the account and one of these mailed with the statement, as the circumstances may seem to warrant.

The clearing house to take a receipt from the doctor for all money paid over to him, stating on what accounts the collections were made, and on the first of each quarter render a statement to each doctor of his accounts then in the hands of the clearing house. These statements will serve as memoranda and do away with the necessity for the doctor to keep a ledger account, unless he chooses to do so. Once every month or every quarter a business meeting of the doctors interested, might be held, at which the secretary shall present a report of collections made and expenses incurred, and present a list of names which, in his judgment, should be black-listed. In this way, by comparing notes with each other and

with the secretary, we can obtain a black-list which shall do no one an injustice and keep this list up to date. Now as to the expense of maintaining a clearing house. A per capita tax of ten dollars per month will, I think, cover all expenses, with perhaps a little extra the first month for office furniture, cards and printing. Deduct from this the amount we are now paying for postage, commissions, the value of our time spent in making collections, together with the numerous small accounts which slip away altogether because we don't go after them, and the difference in expense would in reality be very small, though at first it might seem considerable.

Now gentlemen, I feel that I owe you an apology for the length of this paper, but I have tried to devise a plan, imperfect and somewhat crude, perhaps, yet I believe worthy of your consideration. That the object is one much to be desired you will all admit. That the time to inaugurate a change in the fee system is when every one is prospering and times are good, when money is easy, you will also admit. Whether the plan suggested is worthy of a trial, I'll leave to you, but I'd like to have you all give it a thought. Let us discuss it among ourselves. Let's consider all phases of the matter carefully and thoroughly. I should like to see this Society take some definite action in the matter and *do it now*. Some action that will bring about a permanent and practical result. Wouldn't it be a good plan for the medical societies of the twin cities to appoint committees to act jointly and to formulate a definite plan of action and submit it to the society as a whole?

MONTCALM COUNTY.

The annual meeting of this society was held in Greenville, October 8th. A large majority of the members were present, and one new member was added.

The society is self-sustaining, and came to the end of the year with \$1.45 in the treasury.

The president's address, by John Avery, was a well written paper on the history of the profession in Montcalm County. This was so well received that it was voted that the doctor give it to be published in the Journal of the State Medical Society.

C. L. Rordon (Att'y.) read a paper on Medical Jurisprudence. For this fine paper, Mr. Rordon received a hearty vote of thanks.

W. P. Gamber, of Stanton, read a very exhaustive paper on "Climatology in the United States with Reference to Diseases of the Respira-

tory Organs." This paper was also asked to be published in the Journal.

The following officers were elected for the ensuing year:

President—John Avery, Greenville.

1st Vice-President—N. E. Bachman, Stanton.

2nd Vice-President—L. S. Crotser, Edmore.

3rd Vice-President—F. R. Blanchard, Lakeview.

4th Vice-President—A. E. Savage, Gowen.

Sec.-Treas.—H. L. Bower, Greenville.

The next meeting will be held in Edmore January 7, 1904.

H. L. BOWER, Sec'y.

RECOLLECTIONS OF FIFTY-FIVE YEARS OF COUNTRY PRACTICE IN PIONEER TOWNS.

JOHN AVERY, GREENVILLE.

Fifty-five years seems a long time to look forward to; but it shortens wonderfully when one looks back upon it, until he begins to consider the changes that have taken place during that time, then he begins to realize that he has witnessed a half century's progress.

To a practitioner of medicine, whose life and practice have been on the frontier, where progress has been slow to reach him, and where he has been compelled to rely upon his own experience and resources, aided it may be by the scant literature that he has been able to secure, when he stops to review this progress, he can only wonder that it has so slowly come to him.

He is, perhaps, first impressed by the improved methods of teaching medicine and surgery over those existing fifty-five years ago. In the newer states then there were no public hospitals and few, if any, private ones. Communities were scattered and communication between them difficult, and often impracticable. There were no railroads, no telegraphs, no telephones. The profession scattered, as they were, along the frontier like the settlements in which they lived, were isolated and could have but little, if any, intercourse with each other.

The young man who wanted to study medicine called upon the local doctor and made such arrangements as he could for the use of books and opportunity for study. Perhaps he would take care of the doctor's horse in exchange for use of books and office privileges. Or more likely, he would arrange to take home with him an old work on anatomy and a bone or two, and pursue his studies at home, with an occasional "quiz" by the doctor. Who is there who will not sympathize with the young man in his first "quiz," when he attempts to describe the vertebral column, section by section and vertebra by vertebra, with their

processes, tubercles, foramina, pedicles, arches, notches, and articulating surfaces. If he does not mix the foramina and tubercles and pedicles he will be fortunate indeed.

But he plods along through anatomy, physiology, pathology, chemistry, botany, materia medica and the theory and practice of medicine and surgery. He thinks he begins to see light. He takes his certificate from the doctor, that he is of good moral character, that he has pursued the study of medicine in his office for two years, and is off to attend lectures and to take his diploma to practice medicine.

For two winters he sits in the amphitheater and listens to prosy lectures, dissects a part of a cadaver each winter, witnesses a few clinics from a high seat, sees at a distance a lithotomy, an operation for necrosed bone, an amputation of a leg and an arm, and perhaps a breast or two. He sees the professor thump the chest of a consumptive and put his ear to the chest and hears him describe the different rôles and the sounds of the heart, normal and abnormal, and what they all indicate. He then reads a thesis upon some subject of which he knows little or nothing. He receives his sheepskin and starts back to the frontier to practice his profession. He has never entered a hospital; never sat at the bedside of a patient; never saw a woman in labor; has never made a vaginal examination or a physical examination of any kind. Hospitals were not as numerous fifty-five years ago as now; and private patients were not willing to submit to an examination in the presence of young men; and so no opportunity had been afforded him for practical work at the bedside.

Now all this is changed, hospital and medical schools have multiplied until every city of any considerable size or pretension, has one or more of each. The student is brought to the bedside of the patient and permitted, under instructions, to make careful examinations and to form a diagnosis and to indicate the treatment to be followed in each case.

He is permitted at the bedside of the parturient woman and taught the technic of obstetrical practice. He witnesses at close range surgical operations; administers the anesthetic, assists the surgeon and completes the dressing when the operation is over.

It is presumed that the young man who started in practice fifty-five years ago knew something of therapeutics. He knew that calomel was good for "liver complaint"; that "Peruvian bark" and quinine were good for malaria; that ipecac was diaphoretic and emetic; that opium was good to relieve pain and to induce sleep.

It is presumed that he knew the minimum and maximum doses of each of these and other drugs. But when he came to the bedside and had to deal out these remedies and guess at 10 grains, 2 grains, 1 grain, and one-half or one-quarter of a grain, he was often in doubt, and sometimes made rather queer guesses. He had no 1, 2, 3, 5 and 10 grain tablets in his saddle-bags to prescribe from. He could not write a prescription, for there was no drug store within reach where it could be filled.

He was obliged to make up his prescription from the limited number of drugs he had with him; and quite likely his saddle bags contained his entire stock.

Some fifty years ago I visited a physician in a pioneer town and he showed me a pound of epsom salts on his shelf, and it was the only drug he had except what he had in his saddle bags and in his pockets; and this man made a state reputation as physician and surgeon.

Some sixty years ago there came to a little settlement in Clinton County, called Rochester Colony, a physician about 35 years of age; a graduate of the oldest and most renowned medical school in the United States.

He had spent two years as an interne in the hospitals of his native city, and for three years had been engaged in a lucrative private practice in Philadelphia. He was from one of the old quaker families of that old city. He had influential friends and was not straitened for means. He appeared unannounced in the midst of that little colony of not to exceed a dozen families, and engaged board and room with one of them.

Among the belongings he brought with him were a few books, a fairly good supply of drugs, and a very decent kit of surgical instruments. He had no fever thermometer; no hypodermic syringe; no chloroform; no fluid extracts, nor any alkaloidal tablets, or "pink granules." He had a lancet and believed in its use. His drugs were mostly in crude form. His ergot the dried fungoid grain; his squills the shaved bulb, and his opium in the gum. Calomel, quinine and morphine were about the only chemicals on his list. I am not certain, but I think he never used chloroform, certainly he did not until very late in his practice.

For several years he visited the scattered families and settlements in that wooded county on foot, following blazed trails, wading swamps and marshes, fording streams or crossing them on poles or logs. And though he was rather a silent man in those days, Dr. Wm. B. Watson was kindly, sympathetic, and a skillful physician; and brought relief, hope and joy to thousands in that new country, who revered and honored him.

Some years later he found solace from the bereavement that drove him from the city to the wilderness, in the love and happy union of a cultured lady who came to the colony to spend her vacation from duty in an eastern college.

I commenced the study of medicine with Dr. Watson, and am indebted to him for the certificate that enabled me to enter college and for many other favors.

A few years later I made the acquaintance of another pioneer physician, who was of much assistance to me in my early practice.

Dr. Wier, of Shiawassee County, was a man of wide reading, something of a philosopher and a thoroughly equipped and practical physician and surgeon. He was a notable personality, tall, large boned, angular and very near sighted. The first time I met him I assisted in the removal of a tumor from the neck of a lady. The operation required careful and somewhat tedious dissection; and the doctor's nose and knife were in such close proximity that it seemed as though the nose was as likely to be removed as the tumor. But, notwithstanding his infirmity, the doctor handled the knife with great dexterity and confidence, and did a large part of the surgical work for many miles around in that new country.

The surgery of these early days on the frontier was of the rougher sort; such as pulling teeth with the old fashioned turnkey, mending broken bones, reducing dislocations, opening abscesses, and occasionally removing tumors, when they were disabling or unsightly.

It was not then known that every man had a superfluous appendix that was dangerous to carry around, and should be removed; nor that ovaries were useless organs and a constant menace to the health of women. Nor did he realize that every uterus needed to be scraped and every os and vagina to be pared and stitched to cure headache and hysteria.

The limited number of diseases he had to contend with enabled him to get along with fewer remedies. He hardly had need of the over crowded armamentarium at the command of physicians at the present time. It is possible, however, that confined as he was to a few standard remedies, he had a better knowledge of their action and value than the physician can have who has such a multitude of remedies and combinations to select from.

He could not then turn to his case and select the exact combination of remedies indicated in the case, and already prepared in elegant form, either in elixirs, tablets or pills. He made his own combination, and though it was not quite so elegant, it was perhaps as effective. His patients

were a hard working and plain living class of people. They were not subject to dyspepsia, indigestion or nervous prostration, and had little need of digestive tablets or nerve stimulants or tonics. In fact, the contest between the makers of breakfast foods, health foods and predigested foods and the makers of digestive tablets and elixirs had not then taken place.

The laboratories had not then tried to usurp the duties and functions of the stomach. Postum cereal, malta vita, grape nuts and their like were unknown luxuries then; and the long list of digestive tablets and elixirs that seem to follow their use, were not needed, and were also unknown. Science has done much and will undoubtedly do more, but it may well be doubted if it will ever become a better guide to true alimentation than the appetite and palate.

The stomach, like other muscles, needs exercise, and does not always take kindly to the idea of having its proper functions interfered with by the chemist and the laboratory.

While it may be conceded that medicine and surgery have made rapid advance in the last fifty years, the modern physician is often beset with difficulties wholly unknown to the country doctor of earlier times. The up-to-date physician must differentiate between Yankee measles and German measles, between croup and diphtheria, between smallpox and chickenpox and the Cuban itch; and if he makes a mistake, as the best are liable to do, he finds himself in trouble with the local and state boards of health; and if he makes a correct diagnosis and attempts to quarantine his patient and those who have been exposed, he finds himself in trouble with the community. These difficulties the old pioneer doctors avoided by charging all dangerous diseases to providence. Again, the public now demands that a daily bulletin shall be issued in case of the illness of all noted persons, giving diagnosis, condition, treatment and prognosis. This sometimes becomes embarrassing to the attending physician, when the diagnosis changes, each day, from acute indigestion to appendicitis and then to uremic poisoning, the result of Bright's disease. This subjects the doctor to the criticism of the profession and confuses the public. The old country doctor issued no bulletins, except to the old lady who hailed him when passing, then his answer was brief and to the point, inflammation of the lungs or typhoid fever; very sick, a little easier, about the same, not quite so well, or a little better as the case might be. This was safe and quite satisfactory to the lady and to the public to whom she imparted the information.

A man who was born on the frontier, and who

has chased it from central New York to Western Michigan, and whose associations, social and professional, have for fifty-five years been with the pioneers who have pushed forward the borders of civilization until the frontier has disappeared from the continent, cannot but feel the most profound respect for the class of men whose energy and courage have cleared the way and dotted our land with schools and churches, great cities, pleasant villages and happy homes from the Atlantic to the Rocky Mountains; and again, from the Pacific to meet the western tide and to join hands across the backbone of the continent.

In this movement the clergy, the school teacher and the physician have each borne conspicuous parts; and each has furnished their heroes, whose names, unsung and unrecorded, will live only in the deeds they have wrought.

Fifty-one years ago I first saw Greenville, then a hamlet of perhaps a dozen families. Its northern boundary at that time was a dense and seemingly interminable pine forest, through which flowed the clear waters of the beautiful river which half encircles the now city. Here I found the pioneer physician. A man full of courage and hope, and an enthusiast in every good work, whether in healing the sick, teaching the Sunday school, preaching the gospel or in beautifying the future city by planting and encouraging others to plant the grand trees that now ornament our streets and stand as his only monument. Dr. Chamberlain was a good physician, a good man and a useful citizen, and was the first physician to locate in Montcalm county where are now registered some fifty names.

Thirty-six years ago, after skirmishing along the border for fifteen years, I ventured to locate in Greenville. There were then four physicians in the village, only one of whom is here now. Your worthy and excellent secretary still remains with us, and is, I believe, the oldest active practitioner in the county. They were all good men, and a credit to the profession, and deserve more particular mention than the limits of this paper permits me to make.

At that time the pine woods were filled with lumber camps, and the river with rafts of lumber and floating logs. Now well improved and productive farms with fine buildings and prosperous homes mark the location of these camps. The country was new, the settlers and settlements were scattered and the roads in no wise inviting to the physician or traveler. The rides were often long and through thick forests, and in attempting to follow the trail of the lumbermen, the doctor was often in doubt whether he was going to the camp or to the banking grounds of the logs. Now

the camps, the logs, the mills and the forest have all alike disappeared. Agriculture has taken the place of lumbering. The roads for the most part, as country roads, are fairly good; and if one of our good doctors could have his way would soon be as smooth and hard, and durable as the ancient roads of the Roman empire.

The new generation of physicians who whirl through the country on bicycles, locomobiles and rubber-tired carriages, where the older generation plodded on foot, on horseback or on the old fashioned buckboard, can hardly realize the discomforts, exposure and hard work of the pioneer practitioner of medicine.

To the medical profession of Montcalm county I am indebted for many courtesies and honors, and to them, one and all, I desire to extend my sincere thanks and to express to them my grateful appreciation for these favors, and in retiring from the presidency, with which the members of this society have honored me, which I feel I must do, I want to assure you that my interest in the success of the Montcalm Medical Society will not cease, and I confidently trust it will have a long prosperous and useful future.

CLIMATOLOGY IN THE UNITED STATES WITH REFERENCE TO DISEASES OF THE RESPIRATORY ORGANS*

W. P. GAMBER, STANTON.

At the present time a great deal of attention is being given to the cure and alleviation of consumption. In the east sanatoria have been started in the Adirondacks and soon one is to be started in the Ozark Highlands at Eureka Springs in Northwest Arkansas; and in the west in Colorado and California, the Strawberry Valley resort in the San Jacinto Mountains of the latter state, being one of the most inviting of them all.

A further object of this paper is to give some attention to the climatic management of some of the other forms of diseases of the respiratory organs as well, realizing, as we do, that nearly 90% of the people of the state of Michigan are affected more or less in some form with chronic catarrh, many of whom have their starting point in infancy and childhood; and that many of these little children, because of taking cold frequently, develop polypi and adenoids in the post-nasal passages, and require sooner or later an operation for their relief, without which permanent impairment of hearing and the general health may result. Or perchance it may be a patient with chronic bronchitis in which we have been prescribing appro-

*Read before the Montcalm County Medical Society, at Greenville, October 8, 1903.

priate remedies, and are or are not successful in bringing about a satisfactory result. "In many cases we exhaust our therapeutic resources, and at length, discouraged by the continuance of symptoms, the patient takes it in his head to go to a warmer climate, or in despair over the futility of our efforts, we advise him to go south. Why is this? Because we know that in a suitable climate where he can live out of doors, breathing a balmy air, soothing to his irritable respiratory passages, and invigorated by sunshine and plenty of oxygen, and away from the dust and germ-laden atmosphere of his home environment, he will get from nature's laboratory what we and our drugs can not give him." The above conditions may be the stepping stone to the more serious form of lung trouble, consumption.

What is the cause of all of this? Dr. North, in a paper read before a sanitary convention at Tecumseh a number of years ago, in speaking of winter weather, says: "The air comes to the respiratory passages cold and dry. The heat of the body warms it and it abstracts water from the mucous surfaces over which it passes. This fact explains the great prevalence of catarrh, throat disease, bronchitis, and pneumonia in our latitude and climate. The dryness (?) of our winter air stands in a causative relation to most of them or all of them probably." What I wish to impress upon you is this,—that it is not the dryness of the air that does the harm, and that primarily it is not a dry air except during the middle of our sunny days when the relative humidity may be down to 50 or less.

A cubic foot of air at a temperature of zero requires one-half grain of moisture to produce saturation; at a temperature of 30 degrees it requires two grains; at a temperature of 70 degrees it requires eight grains; and at a temperature of 100 it requires twenty grains to produce saturation. When we speak of the number of grains in a certain volume of air we use the term *absolute humidity*, which has reference to the total amount of watery vapor contained in a volume of air regardless of temperature and is expressed in grains per cubic foot; the term *relative humidity* is used to express the proportion of watery vapor present in the air at certain temperatures as compared with air fully saturated, saturation being expressed by 100; thus, if the relative humidity of the air is 50 and the temperature 70 a cubic foot of air will contain four grains of moisture. The amount of moisture present in the air is an important factor in the preservation of health. If it is too dry the air passages are irritated, while if too moist there is a feeling of oppression. Raymond's Physiology says that a relative

humidity of 70 is, as a rule, very agreeable. Prof. Phillip B. Woodworth, of Lewis Institute, Chicago, who has been making a special study in mean temperature and moisture in the atmosphere as a source of differentiation in the development and temperament of man, says, "that a thermometer range of 65 degrees to 70 degrees, with an atmosphere saturated 45 to 55%, unite in a condition that is ideal to man." Davis' Meteorology says, "Moderately dry air is less uncomfortable than at either of the extremes of dryness or dampness." The marking of the hygrometer gives 65 as normal humidity. Then, in accordance with the above figures, we can have a relative humidity from 45 to 70 and be quite acceptable to mankind.

The average relative humidity in Michigan is lowest during the months of June and July, when it averages about 70, and it is during these two months that there is the least respiratory troubles of any months of the year. The average relative humidity for the months of December, January and February, in the city of Ionia for the year 1885 was 86. This is a fair average for most Michigan towns in winter. The general average is a little less as some towns are a little more favored.

We now come back to what has been called a cold, dry air, and as you see now it has 86% of saturation and only requires a little more moisture to make it 100%. When the temperature is above freezing and saturation results, or whenever the temperature of a large mass of air is reduced below its dew point, the moisture begins to collect in very minute drops, which diminish the transparency of the air and form fogs or mists, when near the surface, and clouds, when in the upper regions of the atmosphere; and if the temperature is below freezing and a drop in the temperature produces saturation, we often notice the precipitation of fine flaky crystals, which is the moisture freezing out of the air. Then, although the absolute humidity of cold air is low, it will be impossible, with the average relative humidity, common in this state, to make it anything else but cold and damp without first some heat to dry, it then it becomes a dry air, for adding more moisture to the cold air makes us feel the cold and the dampness much more. This is also proven by Dr. North's own words when he says: "It is very common when the snow is thawing in the spring, the water of the air being cold and being brought near the body abstracts heat rapidly and chilling is the result. Hence we often suffer from the cold when the temperature is above the freezing point, and the next day perhaps feel no discomfort with the thermometer many degrees lower."

All of the foregoing that has been said, it seems to me, gives very strong proof that high relative humidity in cool or cold air, as has been said, explains the greater cause of throat and lung troubles; but the time of exposure has much to do with it, and herein I think H. B. Baker, of the State Board of Health in Michigan, strikes the keynote when he says, "It is frequently, if not generally, the long continued exposure to hot or cold air that causes the sickness." This is true in the writer's case as experienced in long drives in winter and the higher the humidity the greater the danger. This is the experience of those living in a cold dry air with a relative humidity of 50; they stand more exposure with less danger of taking cold; and as regards the heat we all know how oppressive the hot air is just before a storm when the relative humidity is high and we call it "muggy" or "sultry," while at the same time you can travel through one of the arid regions with a temperature of 100, and those who have had experience will tell you that it does not seem oppressive even with a relative humidity of only 5. Prof. Edward M. Boggs, of the University of Arizona, says, "When the percentage of atmospheric moisture is high, both extremes of temperature are felt to be greater than the thermometer indicates."

It is recognized by the United States government that an atmosphere with a relative humidity of 67 or above, is a moist air and below 67 it is a dry air.

The meteorological reports for Michigan in 1885 give the average relative humidity at ten stations for the months of December, January, February and March, to be 80; the mean absolute humidity for same months was 1.2 grains; and the mean temperature was 20° F. The outside air, with one and two-tenths grains of moisture per cubic foot coming into the house through the furnace and heated to a temperature of 70° F. we have a relative humidity of 15. This is an extremely dry air, while the outside air was moist and cold. If the house is heated by stoves we not only breathe a very dry air, but a very impure one, and going out in the cold from a heated room of this kind when the thermometer at times is below zero, is a fruitful source of disease of the lungs. This cold, moist air as it enters the respiratory tract, is warmed and is then capable of holding more moisture which it takes up here; and as the dew point of the expired air is 94 degrees it contains moisture at the rate of 17 grains per cubic foot, a gain of over 15 grains. These conditions are unavoidable when out in the cold, but while indoors in cold weather it can be overcome by keeping water in the water-pan in the

furnace, or a pan of water sitting on the stove. This is highly important for the sick as well as for the general good of those who are well.

It is true that nearly all the cases of pneumonia occur in the three winter months of January, February and March, and a very helpful cause of this is attributed to the over-crowding and over-heating that one sees in theaters, street cars, and other shut-up, stuffy places where the heat is great enough to desiccate the germs of these diseases which have been planted in such places mostly by coughing and spitting, remembering that the presence of the specific germ is necessary to cause its respective disease. This germ laden air is found in many houses in country and city homes. Good ventilation with plenty of fresh air properly laden with moisture, and more sunshine without shutting up the house against air and light to save the carpet, will remedy many of these evils.

We will for the present leave Michigan climate and take an overland trip to Colorado, and for convenience we will stop at Colorado Springs, 6000 feet above sea level where they are building a nice new sanatorium.

Colorado forms a conspicuous part of the great watershed of the continent, lying as it does on both sides of the Rocky Mountains. The elevation of the eastern base of the Rocky Mountains extending from Wyoming through Colorado into New Mexico and northern Arizona is 5000 feet above sea-level, and the eastern border of Colorado varies in height from 3000 to 3500 feet. It has a remarkably regular and salubrious climate. The northern part of Colorado compares in mean annual temperature with Southern Michigan although the extremes are greater, and the days are warmer and nights cooler owing to its low relative humidity and more sunlight. In winter the weather is good although at times severe, but as you go south into New Mexico and Arizona it is more moderate. In Colorado and northern New Mexico the summer weather in places above 5000 feet is cool and moderately dry and very pleasant, healthy weather for the visitor and invalid. In southern New Mexico and Arizona, except at elevations of 7000 feet and over the excessive dry heat is very trying to all but the robust. One serious objection to all of these places in summer is the dust which is quite irritating to the respiratory passages. In all the places the autumn weather is about equally dry, bright and of a pleasant temperature. In Colorado the annual rainfall is about 16 inches, the most of which occurs in the last two months of spring, mid-summer being dry, while in New Mexico and in Arizona the spring weather is, as

a rule, much better than in Colorado, but is much dryer, and the rainfall, which is usually much less in amount, occurs both in winter and summer. The dry atmosphere is so pure that fresh meats are preserved by the simple process of drying.

Before proceeding to give the specific information about the different resorts, it is perhaps well to discuss briefly some existing characteristics and also what is known to be true of the general effects upon health or disease of the chief factors of climate. The principal modifying factors are due to

1. Distance from the equator.
2. Height above sea-level.
3. Distance from the sea.
4. Prevailing winds.
5. Character of the soil.

The removal of large tracts of timber, the irrigation of extensive, almost deserted wastes, and the consequent abundant vegetation resulting, may vary greatly the humidity of a locality and modify decidedly the climatic conditions. Increasing population, producing towns and even cities in a few years, may modify, for better or worse, the pre-existing conditions.

To those who have never previously experienced a dry, cold, and sunny morning on the eastern slope of the Rocky Mountains, there is a deception in the sensation of cold which is equivalent to 15 or 20 degrees. One seems to be in a much warmer temperature than he really is. It is maintained, however, that variability is quite a uniform constituent of dry, high places. A change of 20 degrees from a warmer to a colder temperature with a relative humidity of 50, does not equal in sensation or shock to the system of a change of 8 degrees with a relative humidity at 80. The former change does not produce saturation but the latter does; so does a change of 5 degrees with the relative humidity at 90 produce saturation.

As to temperature, elevation has a constant effect in the production of cold. For every 300 feet of rise it is about 1 degree colder. This is neutralized at some places by excess of sunshine and character of the soil.

The nightly freezing of the air, together with its dilution through lessened air-pressure, renders germ life much less active. Experiments show that at an elevation from 6700 to 10,000 feet no germs were found in the air. At 2000 feet very few were found, and at lower levels more were found, but this depends entirely upon the surroundings. In thickly populated districts at high elevations, as 6000 feet, germs were found to be more plentiful while at lower levels with

light and porous soil and sparsely settled the germs were few or absent.

Lessened atmospheric pressure leads to an equivalent loss of oxygen and has its effect upon respiration, and this is usually experienced when a rarefaction of 14 per cent is reached. Some persons appreciate some effect all the way from 3000 to 6000 feet, and others do not receive much embarrassment until they reach 10,000 feet or more where it becomes quite marked, and many healthy persons and some of the more robust invalids get quite accustomed to the change. At 6000 feet there is a loss equal to about one-fifth of the pressure found at sea-level.

On the arrival of a healthy individual in a high altitude, there is first an increase both in frequency and depth of respiration. When adjustment to the new conditions has taken place, which requires a variable period according to the altitude and the individual, the respirations are not nearly so much increased in frequency during rest, but the depth of breathing is habitually greater. Decreased atmospheric pressure also increases peripheral circulation, which in turn improves nutrition and increases the hæmoglobin and red-blood corpuscles of the blood.

As to the effect of high altitude the one disease which is to receive greatest benefit is consumption.

Dr. S. E. Solly of Colorado Springs says: "As a broad statement it may be said that consumption is prevalent in proportion to the temperature and humidity of the climate.

"First, in damp, cold climates; second, damp, hot climates; third, dry, hot climates; and fourth, dry, cold climates, while in curative effects it is true in the reverse order. Heat in a damp climate, except when tropical, is less harmful than cold, while heat in a dry climate is less beneficial than cold." "Cold, moist wind sometimes soothes, but more often depresses the patient while it aggravates catarrhal affections if they are of a relaxed type. Cold, dry wind simply stimulates or else irritates the patient, and hence it improves relaxed catarrhal conditions, but makes those which are inflammatory worse. Warm, moist wind lessens irritability, and is either soothing or depressing. Warm, dry wind acts as a tonic or increases irritability."

Table No. 1 does not give all the health resorts as the meteorological reports for many of them are incomplete. The last eight on the list are simply given for comparison,—for instance, Neah Bay, Washington, with a mean relative humidity of 88; 70 per cent of cloudy weather; and an annual rain-fall of 113 inches, the most of which is in winter, shows that it is not the best place for respiratory diseases.

Colorado Springs, 6000 feet above sea level, and Denver, 5291 feet, have about the same winter temperature; but Colorado Springs is slightly dryer, has less snow, but rather more wind. It is laid out as a health resort upon a mesa near to, but sufficiently removed from the shadow of Pike's Peak. The location of the new sanatorium is about 3 miles northeast of the city at the foot of Austin Bluffs, 300 feet above the city, where it has a southern exposure and is sheltered from the north and west winds.

Glenwood Springs, elevation 5600 feet, about 160 miles west of Denver, lies in a protected valley in the midst of the foot-hills of the western slope of the Rocky Mountains. The annual rainfall including snow is 15 inches. The sheltered situation of Glenwood makes it an admirable winter resort. High winds are rare, and dust, so common on the eastern slope of the mountains, is absent. There are a large salt-water pool, and fifty thermal springs, a few of these, yielding about 2000 gallons of water a minute, are utilized. The temperature of the water is 127° F.

Santa Fe at an elevation of 7013 feet has a magnificent climate, and is an interesting town with fair accommodations, but sanitation is not good.

El Paso, just over the New Mexico border in Texas, has an elevation of 3762 feet. The soil is light and porous, no fogs, malaria, nor mountain fever as they have in the mountains of Colorado. The asthmatic invalid or consumptive may sit out of doors, ride, or walk in the sunshine 350 days in the year. Wells are driven with but little difficulty and water, clear as crystal, is secured anywhere from seven to fifteen feet. Dr. Alexander of El Paso says: "This altitude is not too high for the consumptive at any stage, except in the most extreme cases, and so with organic disease of the heart; and chronic bronchitis in all varieties, asthma, hay fever, chronic pneumonia, rheumatism, and dyspepsia are always relieved, more often cured."

Prescott, Phoenix and Oracle in Arizona all have points of climate in their favor. At Phoenix the local humidity is modified by the irrigation which sometimes produces a light morning and evening fog but the mean relative humidity is only about 38. Oracle is removed from the dust and turmoil of the city and is said to be pretty and attractive, with two fair hotels.

Tucson. From Oracle we take a forty mile stage ride down grade and reach Tucson at an elevation of 2400 feet, about one-half that of Oracle. Here we still find much of the influence of desert air. It is walled in all around by moun-

tains which are 5000 feet high. Dr. Mark A. Rodgers of Tucson, who had two hemorrhages from the lungs and was cured by the climate of Arizona, speaks of Tucson as follows: "The city of Tucson has, in my opinion, advantages as a health resort which can not be equaled in North America. It is no longer considered imperative to send patients to an altitude of 5000 feet or over. Tucson has the lowest relative humidity of any city in the United States during the winter months (the average for the year being about 42), and probably will remain so because irrigation can not be carried on to any extent because there is no water and the soil is all disintegrated granite debris, eroded from the neighboring mountains, and is from 1 to 300 feet deep, and is such that nothing more than a few shade trees and small fruit trees can be grown, and these only when great care and attention have been devoted to them, with one exception,—roses bloom in the garden in magnificent style almost every month in the year. There are no fogs and nearly 300 cloudless days in the year. This is an admirable place for winter and while the summer days are very warm, sunstroke is unknown and the nights are cool."

This variation between day and night is explained by the principles of natural philosophy. Moist air is heavier than dry air and partakes or imparts with heat or cold very slowly as does the waters of the ocean. With dry air the reverse is true and with a light and porous soil makes the radiation more rapid; thus they have warm days and cool nights. Tucson is highly recommended for asthmatics.

It is now about time to take a trip to the seacoast. We come west to Yuma where we cross the Colorado River and get into California. Here we come to the Colorado Desert, a place that is very hot, dry, and very uncomfortable in summer, that people always shun if they can. The photographs of some old Indians confirm the picturesque legend that "in Southern California and Arizona the aboriginal inhabitants never die,—they just dry up and are wafted away by the wind." It is also said that wounds require no surgical dressing.

As we move westward over the mountains and down the western foot hills we come to the most beautiful part of California, in latitude between 32 and 35 degrees. It has a coast line from Point Conception running in a southeast course to Coronado and back from the coast are high mountains. At Point Conception the coast range changes its general direction and runs nearly east; the other mountains also run eastward for a sufficient distance to protect the country from

the north, when they again turn south, offering another protection from the deserts which are east of them, and leaving between it and the coast an irregular plateau varying in width from 2 to 60 miles with an elevation of 1500 feet at the foot of the mountains. It is this plateau that is meant when the term *Southern California* is used as a place to live, and which is so inviting as a place of residence for both sick and well. The Pacific Ocean is a great body of cold water, and there are no warm currents that touch the coast at this place where we have the most equable climate of any country in America. The difference between the mean temperature for January and July along the sea-coast, even as far north as San Francisco, is only about 9 degrees, but as we go farther inland the difference becomes greater. At Idyllwild, 100 miles from the coast and 5250 feet above sea-level, the difference is 22 degrés; at El Paso, 39; at Colorado Springs, 43; at Chicago, 51; in Montcalm County, 56.

While to the convalescent such places as Los Angeles, San Diego, and Coronado are exceptionally agreeable, we can not help but call your attention to the foot hills which vary in elevation from 1000 to 3000 feet. Dr. Geo. E. Abbott of Pasadena, Cal., says: "That, notwithstanding our warm, genial winters, our summers are not hot, but almost as cool as our winters, in fact the average Californian enjoys the summers more than the winters. At the foot hill altitude we escape the excessive heat strain."

The eastern foot hills a little farther back and occupying the country mostly to the north of the San Jacinto Mountains include the cities of Riverside, Redlands, Highlands, San Bernardino, etc. Dr. C. A. Sanborn of Redlands in speaking of the eastern foot hills says: "The fact is, there are few days in the whole year too warm to enjoy and thrive in, in this section. It is said there are 320 days of sunshine in the year, the other 45 covering all weather disagreeable from rain, wind and heat. We do not mention cold, for while it is cool and bracing through the winter months, the thermometer seldom goes below 32. During my fifteen year's residence and experience in orange growing in Redlands, I have never found frozen fruit in my orchard, although ice often forms to the thickness of a third of an inch. The explanation of this fact is probably due to the currents of air, and to the fact that the cold is of short duration in early morning—the coldest being just before sunrise." There are mountains on three sides, the lowest ones lying to the west and the Mojave Desert to the east. The mean annual temperature for the eastern foot hills is 65; that for the western

Foot Hills is 62. The mean for January, 51; for July, 72. Annual rainfall is 17 inches. At Redlands there are about 4500 acres devoted to orange groves from which 2443 carloads of fruit were shipped in 1901. Riverside farther west possesses the oldest orange groves in California. Ample irrigation, enriching the soil, has brought these ranches to the highest state of cultivation so that 5000 carloads were shipped from Riverside in 1901. The famous navel orange was first grown in the United States at Riverside about eleven years ago.

Consumptives are said to do well at the foot hills but they are advised not to go in the immediate vicinity of the orange growing where irrigation increases the moisture and gives rise to occasional fogs, as it does also in Arizona and Colorado where irrigation is practiced, and increases the relative humidity from ten to fifteen per cent.

Dr. Norman Bridge of Los Angeles says: "The great majority of invalids that go to Southern California are of the tubercular class. They recover in encouraging numbers, in such proportion indeed, that it is a strong argument against the theory that high altitudes are of any indispensable value for this disease. The experience of Southern California in tuberculosis also supports the contention that intense dryness of atmosphere is not so important as it has been thought."

Dr. Edson of Denver says: "There are many patients who, even with dry air and sunshine, do not thrive at high altitudes because of embarrassed respiration, but do well in lower altitudes. In my own experience I meet such patients constantly, patients that do not thrive well at Denver, but who improve in the lower altitudes."

Dr. Anderson of Colorado Springs says: "The high altitude climate of Colorado or Colorado Springs, with which I have had experience for the past 28 years, is specially adapted to and curative in a majority of incipient cases of phthisis of whatever variety or type. There are cases seeking this climate and altitude, however, who do not receive the expected relief. Many invalids when physical conditions, area of disease, and length of time affected would presuppose a favorable prognosis, yet finding the altitude affording no relief, but on the contrary often proving disastrous," and further advises an intermediate altitude and after much improvement the higher altitudes may be sought.

The advocates of high altitudes tell us that the statistics show an almost steady rise in the percentage of improvement from the ocean to the altitude. The percentage of improvement among those who took sea voyages was 54; in lowland

climates, 57; in lowland desert climates, 65; while in altitudes, 77. These percentages may not be entirely fair for the reason that these cases not suited for the high altitudes on the start are advised to reach them gradually by the way of New Mexico and Arizona and go higher as they are able to do so. If they die before reaching the higher place the lower altitude gets the credit of the death, and if they improve at the lower level and are then able to go to the higher altitude the latter place gets the credit of the cure.

Although tubercular cases do well in Southern California, the physicians there have realized the fact that many of this class of patients do better at a higher altitude. This ideal place they have found at Idyllwild, a health resort in the Strawberry Valley, Riverside County, at an elevation of 5250, situated on the southern slope of the San Jacinto Mountains. For most of the information concerning Idyllwild and the Sanatorium, I am indebted to Dr. Walter Lindley, Secretary and Manager, Los Angeles.

The Sanatorium at Idyllwild is built at a great expense with all the modern conveniences. The plumbing is perfect and the water supply comes from a reservoir 200 feet higher than the buildings. This reservoir is supplied from one of the mountain springs that flows 80,000 gallons in 24 hours. The mean annual temperature is 52; for January, 38.4; for July, 70.5. It has a mean annual temperature equal to that of Pueblo, Colorado, but the extremes are much less. (See table No. 2.) For the year 1901 there were 291 clear days, 12 cloudy days, and 72 partly cloudy; and these 291 days during the year that are noted as "clear" were totally free from fog or cloud. The annual rainfall is 18 inches and the summers are not so dry as on the lower lands of California. Some snow falls during the winter, the most of which is in February. All of these mountains for years have been resorts for their own people, and Strawberry Valley, in which Idyllwild is located, long before a sanatorium was projected, has had a reputation that has attracted many tubercular cases, who not only spent the spring, summer and autumn there, but also the winter months, and have claimed to have derived great benefit therefrom. If while there the patients are prescribed mountain climbing, they can with a few hour's climb from Idyllwild, reach the top of San Jacinto Peak at an elevation of 11,000 feet, from which they can view the Pacific Ocean 100 miles to the west, immediately below hosts of lesser peaks, and between these and the ocean, lie the rich, green squares of the far-famed orange orchards of Riverside.

Ninety physicians have joined in purchasing

4,284 acres that include Strawberry Valley and Idyllwild Sanatorium. The valley is covered with timber, many of the trees being large, pine, cedar and live-oak predominating. Surrounding this among the mountains the United States Government owns 734,000 acres of forests of pine and cedar of various kinds.

The amount of rainfall at the sea-coast of Southern California is about 10 to 12 inches, the most of which comes during the months of January, February and March, with practically none during the three summer months. Owing to the long, dry seasons in summer, dust becomes objectionable, but the principal streets of all towns in Southern California are sprinkled several times during the season with crude petroleum. A large supply of oil from the oil wells of Southern California makes this possible. As the oil becomes well incorporated with the road-bed a firm and dustless road is the result.

As to the humidity of Southern California it is greatest at the sea-coast. For 1901 the mean relative humidity at San Diego was 74; at Los Angeles, 73; and at the foot hills and Idyllwild, 55 to 60. Then as to dryness of the air, it does not vary much from that of Colorado with an equal elevation. As a natural result of these conditions of the air, as soon as the sun goes down at night, the radiation from the surface of the earth is so great, that the air stratum above it cools rapidly, especially on the higher levels, it becomes heavy in consequence and rolls down toward the sea all night; and nearly every day of sunshine as soon as the earth's surface becomes warmer than the waters of the ocean, these land breezes are changed to sea breezes which gradually increase in velocity up to about 2 P. M. when it is at the rate of 12 miles an hour and gradually diminishes until sunset when the land breezes begin. An occasional exception to this is due to some storm movement. These diurnal breezes are noticed at Idyllwild where some of the moisture from the ocean is carried, but this is counteracted by the dryness of the nocturnal breezes coming back at night from the Colorado desert which lies to the east. This dry air at night makes it possible to sleep in the open air the year round at Idyllwild and the foot hills.

As to sunshine, with the exception of Arizona, California has the maximum. As to the per cent of cloudiness by daylight as compared to other places for 1901, San Diego had 30 per cent. of cloudy weather; Los Angeles, 35 per cent.; western foot hills, 30 per cent.; eastern foot hills, 29 per cent.; Idyllwild, 15 per cent.; Tucson, 25 per cent.; Yuma, 11 per cent.; El Paso, 33 per cent.; Colorado Springs. 38

per cent.; Denver, 40 per cent.; Chicago, 50 per cent.; Ionia, Michigan, 61 per cent., and Neah Bay, Wash., 70 per cent. In Colorado most of the cloudy weather comes in winter; in Southern California in May and June. In California they are reminded of their foggy weather by the Colorado physician. They do have them occasionally at night or early morning following some of their warm days but they soon disappear after the bright sun comes out. But there is no place all sunshine, and "When even Colorado Springs, that paradise for the phthisical, with Pike's Peak ever at her elbow to freeze any excess of moisture from her diathermic atmosphere, may lie for seventeen successive days under a canopy of clouds without a ray of sunshine to idealize her usually unexcelled invalid's day, one can readily see that climato-therapy presents some problems not easy of solution." In all of these conditions, whether favorable or unfavorable, the general average must be the guide.

Above all, the two most essential elements, and upon which all agree, are plenty of sunshine and an abundance of pure, fresh air. Dr. Babcock says: "I think that this simply emphasizes the truth of the principle that it is life in the open air that cures our tubercular patients, and that, however fine the climate, the consumptive will not recover unless he spends his time out of doors." As to pure air, California, Arizona, New Mexico, and Colorado have it in abundance. Sunlight promotes healthy growth, increases oxidation of tissue, and is the best and cheapest of the germicides.

We have before mentioned the fact that diminished barometric pressure being a most important factor in altitude in which we get an increase in the peripheral vessels which brings to the surface more blood to be exposed to the sun light and air; and thus increasing oxidation and nutrition. This also causes an increase of the number of red blood-corpuscles and an increase of hæmoglobin, giving to the blood greater power to absorb oxygen, thus insuring to the blood an increased germicidal power. Exercise and massage also increase the peripheral circulation, so that in the lower levels of California and Arizona, with their greater equibilty of climate, giving a greater opportunity for out-door exercise the year round; and an increase in the amount of sunshine, they make up in these important elements what they lose in altitude effects. This is especially important for those who can not go to the higher altitudes.

The contra-indications to high altitudes are as follows:

1. Patients too feeble to take out-door exercise.

2. Old age and atheromatous conditions.
3. Valvular lesions with rapid action of heart.
4. Chronic bronchitis and bronchiectasis.
5. Relaxed catarrhal conditions which are inflammatory in nature.
6. Emphysema.
7. Active pneumonia and existing hæmoptysis.
8. A very excitable nervous system.
9. Anæmia in most cases.
10. Disease of the liver and kidneys, including all forms of albuminuria.
11. Rheumatism, gout, lithæmia, and uric acid diathesis.
12. Disease of brain and spinal cord.

The most to be desired for chronic bronchitis and catarrhal affections is equibilty of temperature and where they are free from the severe cold weather. In Southern California cases with chronic bronchitis do well and many with catarrh, some of which have beginning deafness improve greatly. Pneumonia is rarely seen unless it be the catarrhal form and these are of a tubercular origin. Scrofulous affections, enlarged glands, the soft, flabby muscles of the strumous individual, and the lymphatic or adenoid child, receive marked benefit from long residence on the sea-coast combined with sea-bathing.

The physician should carefully study, not only the physical but the social and financial conditions of his patient before recommending a change. As a rule in the first stage of consumption, in which the dullness at apex reaches to the third rib, the patient should go to a high altitude (5000 to 6000 feet) where the atmosphere is dry and as warm as practicable, but this is not so important providing there is an abundance of sunshine, though many phthisical patients are better in a southern climate in winter. It will be found that patients who feel best in cold weather are likely to be benefited by a comparatively cool climate, the others in a warmer temperature. In the second stage, that is where the dullness is below the third rib, they should be sent to a medium altitude; and in the advanced stage, if sent anywhere, it should be in a low altitude.

Dr. E. Fletcher Ingals of Chicago says: "When sojourning in a favorable climate the patient should be out of doors as much as practicable during the pleasant portion of the day, should avoid excessive heat, excessive cold, and unusual fatigue. Patients who have been improving on any course of medication should not discontinue it upon going to a different climate, but, however valuable any remedy may appear, it should not be continued if it becomes clear that it is deranging the digestion."

Oil of cloves and creosote carbonate are the most satisfactory antiseptics for internal use.

It must be understood that home treatment alone cures a great many cases. I can report two such cases from my own records, in which creosote carbonate was the main remedy used; and there are many who go to a suitable climate at a high altitude and gradually decline and die, but it is the opinion of some of our best physicians, that with a suitable climate their chances for getting well are increased fifty per cent.

It is also true that many cases of tuberculosis develop primarily in the higher altitudes. Such cases have been reported among the Indians in Colorado, some of whom were never out of the state and never were with a white man who had a cough.

A word for the asthmatic. Tucson, El Paso and the mountains of California are highly spoken of. The main requirements seem to be a relatively dry atmosphere, yet Dr. Curtin of Philadelphia reports a patient, a confirmed asthmatic, who, whenever he had an attack of asthma was always relieved by sitting on a chair in a damp cellar when the day was hot and dry. Dr. Bridge of Los Angeles says: "Asthma is always an interesting study in California because some cases improve markedly in one region, and only a few miles distant, do badly. Some of them if they stay near the mountains are free from their wheezing. They can go down toward the sea during the day with impunity, but they must get home before darkness, or be seized with a paroxysm of wheezing."

It is often necessary to try several places, possibly without any relief, and lastly the relief so long hoped for is found at the place from whence he first started.

Hay fever.—We find a few places mentioned as being pre-eminent in giving immunity from and benefiting hay fever. They are, Southern California, El Paso and Bethlehem. The last town mentioned is situated in the White Mountains of New Hampshire, 1450 feet in altitude. It is only a summer resort and the season extends from July first to October first. For ten years the mean temperature for the three months was about 65 degrees; and the mean relative humidity, 65. During this time there are 95 per cent. of bright and sunny days and the air is pure. Here we find the following five favorable climatic conditions: Pure air, plenty of sunshine, moderate temperature, moderate elevation, and moderate dryness of the air. Places with similar conditions, having an all-the-year-round suitable climate are Asheville, North Carolina; Ozark Highlands in Northwestern Arkansas; and the foot hills of Southern California. Our "Bay View" summer health resort in Northern Michigan gives most of our hay fever patients complete immunity during its season.

Just a few words for Florida. We find along the Gulf of Mexico in west Florida the perfection of a maritime climate from Cedar Keys to Punta Rassa, between the 26th and 29th parallels of latitude, with Tampa about midway between. The Pinellas Peninsula on which Tampa is located lies between Tampa Bay and the Gulf. This portion of the state is favorably known as a health resort. It affords excellent accommodations for visitors, and an opportunity for a permanent residence superior in many respects to that found in other portions of the state. The chief settlement on the peninsula is at St. Petersburg, about 18 miles southeast from Tampa, and connected by rail with roads leading to the north. Accommodations are good. The principal industries are raising fruits and vegetables for northern markets, for which the soil is especially adapted. Living is inexpensive. The difference between the mean temperature for summer and winter is about 12 degrees, making the climate equable and uniform, and in this respect, it comes next to the coast of Southern California. There is immunity from fog and malaria and three-fourths of the days are clear. They enjoy complete immunity from the sudden variations of temperature and violent storms which occur in the vicinity of mountain ranges. The mean relative humidity for a number of years at Punta Rassa was 72. Meteorological report for Tampa near this place will be found in table No. 1. This climate may be found especially beneficial for all bronchial and catarrhal affections, and for all other cases desiring a mild and equable climate, except tubercular cases are better in a dryer climate in summer.

Dr. S. J. Murray of New York says: "In the southern states there is perhaps no better all-the-year-round place than Asheville, and on the Cumberland Plateau in Eastern Tennessee was to be found one of the most remarkable climates for phthisical patients."

Asheville is situated in Western North Carolina at an altitude of 2350 feet among the mountains on the French Broad River. The soil is dry and porous. The average relative humidity for a number of years is 65. Here we find some favorable conditions in regard to the humidity not generally found in other places. It is this: The average relative humidity for the three winter months, which is 63, is less than the average for the three summer months which is 70. This is also true on the Cumberland Plateau of Eastern Tennessee as also on the coast of Southern California, even as far north as San Francisco. At Los Angeles the average relative humidity for the three winter months is 63 and for the three summer months it is 76. At Asheville there are

314 clear and fair days for the year. Fogs are rare and snow rarely falls, and when it does it generally disappears the same day. The accommodations are abundant. The particular advantages of this region are freedom from severe cold weather, medium elevation, freedom from extremes of temperature or humidity, a large average of clear and fair days, easy accessibility, a relatively dry atmosphere, and attractive mountain scenery. It has every condition favorable to out-of-door life; it is an all-year favorable locality and especially so for all the diseases under consideration.

TABLE NO. 1.

In the following Meteorological reports the averages for a number of years are given for Colorado Springs, Prescott, Tucson, and Asheville; Ionia is for 1885; all the others are for 1901.

	Altitude	Latitude	Air-pressure	Temperature			Humidity		Dew point	An. rainfall	No. cloudy days.	% clear sky	Velocity of wind per hour	
				Annual	Jan.	July	Relative	Absolute						
Santa Fe	7013	35-41	23.26	49.9	31	70	52	2	00	30	17	26	31	6.8
Colo. Springs ..	6000	38-51	24.03	47.0	26	69	50	1	84	29	14	57	38	9.2
Prescott	5300	34-33	24.74	53.0	34	74	51	2	31	35	15	51	25	6.8
Denver	5291	39-45	24.73	51.6	34	76	53	2	15	31	15	60	40	8.2
Idyllwild	5250	33-47	24.86	52.0	38	70	60	2	45	35	18	12	15	5.6
Pueblo	4685	38-18	25.27	52.0	33	76	54	2	20	31	12	37	41	6.8
El Paso	3762	31-47	26.21	64.0	44	84	43	2	65	40	9	36	33	10.7
Tucson	2400	32-14	27.45	69.0	50	88	42	2	35	44	7	57	25	7.5
Phoenix	1108	33-28	28.77	69.0	49	90	38	2	85	38	5	44	28	4.3
Los Angeles ..	338	34-03	29.62	62.0	55	69	73	4	32	50	12	33	35	4.5
Yuma	141	32-44	29.92	72.0	55	92	40	3	50	42	4	13	11	6.5
San Diego	87	32-43	29.87	61.2	56	66	74	3	29	52	10	45	30	5.6
Asheville	2350	35-36	27.30	58.0	46	68	65	3	50	45	40	65	35	3.3
Tampa	34	27-57	29.98	70.0	59	82	78	6	14	60	54	86	50	6.7
Pensacola	56	30-25	29.98	66.0	53	82	72	5	15	55	52	91	46	9.6
New York	314	40-43	29.64	52.3	32	78	70	3	01	42	47	134	54	14.5
Detroit	730	42-20	29.21	48.0	25	77	75	3	55	39	29	134	56	11.0
Ionia, Mich ..	688	42-59	29.23	43.9	17	75	79	3	39	33	30	61	9	9.8
Marquette Mich	734	46-34	29.19	41.7	18	68	81	2	82	35	37	177	65	10.6
Chicago	823	41-53	29.13	45.6	26	77	79	2	77	40	25	105	50	16.2
San Francisco	155	37-48	29.88	55.2	50	56	81	3	86	48	20	82	42	10.0
Neah Bay, Wash	50	48-22	29.98	48.2	39	54	88	3	30	44	113	216	70	7.9

TABLE NO. 2.

Mean monthly temperatures showing milder winters and cooler summers at Idyllwild as compared to Pueblo in 1901.

	Annual	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Idyllwild	52	38	47	38	51	52	61	70	66	61	55	45	42
Pueblo	52	33	29	39	49	59	70	77	74	64	54	44	32

SANILAC COUNTY.

The regular quarterly meeting of the Sanilac County Medical Society was held at Marlette on Oct. 5. There was a large attendance. Papers were presented by J. W. Weed of Brown City and Geo. Simenton of Marlette. Dr. Weed's paper was on "Some Disorders of Menstruation,"

and the discussion was opened by J. S. Little of Sanilac Centre. Dr. Simenton's paper was on "Eclampsia," and the discussion was opened by D. D. McNaughton of Argyle, and a general discussion of the papers by the members present followed.

Mortimer Willson of Port Huron, Councilor of the Seventh District, was present and gave some good advice to the members, which was well received. His presence and words of wisdom were very much appreciated by all those present.

The members in attendance were: H. W. Smith, of Carsonville, T. S. Kingston, B. E. Brush, H. H. Learmont and H. F. Waters of Croswell, D. D. McNaughton of Argyle, J. Wallace of Elmer, J. W. Weed and J. E. Campbell of Brown City, A. Toal of Peck, J. W. Scott, W. R. Yuill, J. S. Little and G. S. Tweedie of Sanilac Centre, G. Simenton, W. T. Atkinson, H. B. Williams and H. McCrea of Marlette, and A. W. Truesdell of Shabbona. G. Bates of Kingston, Tuscola County, was present by invitation and took a deep interest in the meeting.

The next meeting, which will be the annual meeting, will be held at Croswell, on Monday, Jan. 4, 1904. The membership of the society now numbers thirty-four members in good standing. G. S. TWEEDIE, Sec'y.

CARDINAL POINTS ON FRACTURES.*

The paper advocated larger fees for treating fractures and citing the requirements, responsibility and time taken to make and properly diagnose, treat and care for this line of surgical work.

The essayist pointed out the necessity of a complete history before attempting a physical examination, and cited that many cases, as Colle's, hip-joint and other fractures could be almost positively diagnosed from history alone. Then inspection was taken up as a means of diagnosis. Measurement was next taken up and it was shown that with a positive knowledge of the land-marks, as bony prominences, muscles and tendons one with a little experience would be able to make quite positive diagnosis with measurement alone. Preternatural mobility can be appreciated upon inspection.

The reader of the paper advises strongly against forcible manipulation of fractured bones for the purpose of eliciting crepitus, and pointed out that sometimes this means of diagnosing the fracture was a dangerous one, citing an impacted fracture of hip-joint as a case in point.

The paper also advised against the too extensive use of splints, and the long application of

*Abstract of paper read by E. B. Smith, Detroit, July 6th.

the splints, saying that better results are obtained with retentive bandages reinforced by small splints. These should be frequently removed and the soft parts massaged, where fracture is near the joint, the joint should be moved frequently.

SHIAWASSEE COUNTY.

The annual meeting of the Society was held Tuesday, October 6th, 1903.

Typhoid fever and Genito-urinary Diseases were thoroughly discussed. The following are the officers of the society:

President—D. H. Lamb, Owosso.

Vice-President—R. H. Scott, Laingsburg.

Secretary-Treasurer—Chas. Shickle, Owosso.

Board of Directors—C. McCormick, Owosso; Lewis Fleckenstein, Vernon; Lynn M. Cudworth, Perry.

CHAS. SHICKLE, Sec'y.

ST. JOSEPH COUNTY.

St. Joseph County Medical Society met at White Pigeon, September 15th. After a dinner at the Hotel Kingsbury, provided by the courtesy of Drs. Cameron, Sweetland and Williams, the Society repaired to the ladies' club rooms, when, after the usual business was transacted, the Society had the pleasure of hearing a lecture on "Retro-version of the Uterus," by N. D. Wood, of Angola. The lecture was discussed by a number of the members, and Dr. Wood was given a vote of thanks by the Society. John J. Sweetland followed with an able paper on "Tetanus," with a report of two cases occurring in his practice. The Society will meet at Three Rivers in October, and an interesting program is expected. St. Joseph County Medical Society was organized at Sturgis in December, 1902, and has held regular monthly meetings since that time, the interest has not abated and the Society is composed of the best physicians in the county, and is slowly growing. St. Joseph County has had no medical society since about 1878, until the present organization was perfected by Dr. Lowrie, of Hastings.

St. Joseph County Medical Society met at Three Rivers October 13th. By the courtesy of the Three Rivers members the members' wives and ladies were invited to a luncheon.

Program consisted in part of a paper by Dr. Long, "Are There Specifics in Medicine?"

By Dr. Slote, "Mammary Abscess with Report of Cures." Other papers of interest.

Committee of Arrangements—L. J. Haines, L. D. Knowles, Arthur Sidmore.

J. R. WILLIAMS, Sec'y.

TUSCOLA COUNTY.

The Tuscola County Medical Society held its regular meeting at the Masonic Hall, Cass City, October, 12. After the business meeting and clinic Dr. Seeley, of Mayville, read a paper entitled "Cold in the Treatment of Rheumatism," in which he reported two cases treated by the application of an ice-bag to the spine from the cervical vertebra to the lumbar. These were cases which had been treated with the salicylates without relief, but made a rapid recovery when the ice was used. The doctor believed the good results were obtained through the tonic influence of the cold on the nerve centers.

Dr. Le Valley, Vassar, read a paper on "Venereal Ulcer, Chancroid," going thoroughly into the discussion of this subject and the differential diagnosis from chancre.

Dr. Bender, Caro, read an excellent paper on "Chronic Urethritis in the Male."

Dr. Meredith, Caro, read a paper on "Hysteria," and Dr. Livingstone one on "Pelvic Abscess."

All the papers were generally discussed.

Two members joined the society at this meeting, A. J. Howell, Novesta, and Geo. Bates, Kingston, making a total membership of nineteen, fifteen of whom were present. Dr. Truesdell, of Sanilac Co., and Dr. Keeler, of Lapeer Co., also attended.

A banquet to the doctors and their wives and a social evening completed a very profitable and pleasant day.

The next meeting will be held at Vassar, Jan. 11th, 1904.

W. C. GARVIN, Sec'y.

CHRONIC URETHRITIS IN THE MALE.*

F. P. BENDER, CARO.

In considering the subject of chronic urethritis with reference to its etiology, symptoms, diagnosis and complications, it is well to remember that we have to deal with a chronic inflammatory process similar in general to a chronic inflammation in any other part of the body. There has been a widespread opinion among physicians that gonorrhea need not be taken seriously. On the other hand, the frequency of the disease, the large amount of literature on the subject, and, most serious of all, the pathology produced from the effects of the gonococcus of Neisser, make the subject an important one for consideration. After an acute gonorrhea has lasted for eight or ten weeks it becomes chronic. The case is rare where an acute attack has been so completely cured that

*Abstract of paper read before the Tuscola County Medical Association, October 12, 1903, at Cass City.

none of the germs remains in the urinary tract. The anatomy of the parts predispose to chronicity.

Chronic anterior urethritis is not commonly seen alone and is caused usually by stricture and posterior urethritis. The principal symptom is the discharge. Chronic posterior urethritis may be detected only by finding pus and comma shreds in the urine; but through some immoderate act or indulgence on the part of the patient, the inflammation extends to other parts, involving glandular structures and deeper stroma clinically. An urethral discharge is not always to be considered as "gleet." As a matter of fact, three different forms are observed, viz., gleet proper, prostaticorrhœa and urorrhœa, or chronic urethral moisture. Each of the above depends upon a distinct pathological lesion for its cause. Examination of the urine by the aid of the microscope is very important. The treatment must be one suited to the patient after a correct diagnosis has been made. Each case is a law unto itself. The most important part of any form of treatment is aseptis. Be sure nothing is added to the pathology already present.

HYSTERIA.

W. C. MEREDITH, CARO.

I scarcely hope to be able to say anything on the subject of "Hysteria" that has not been said before. It has no pathology; its etiology may be anything or nothing, and its manifestations are as the sands of the sea for multitude. It may simulate, more or less closely, any known disease, and there is no subjective symptom known to man that the hysterical patient has not had or may not have. It would be a waste of time to enumerate the symptoms it may present. It would be an absolute impossibility to speak of any symptom it may not present. I will merely say in passing that I believe hysteria, although presenting no organic lesions so far as known, to be a real disease, real as smallpox, and this being so that it is amenable to treatment.

I had intended to make this paper a report of cases, but as I do not keep a record of my cases, I found on trying to report from memory that I would be compelled to omit so many details as to make them practically valueless and I will therefore have to generalize as to treatment.

The first thing to do in a case of hysteria is to correct if possible any source of reflex irritation, to correct the secretions and excretions, to make sure that the patient is being properly nourished, and gain the patient's confidence. Impaired nutrition, uterine displacements, obstructions of the cervical canal, perineal or cervical lacerations, with impingement of nerve fibers in the resultant

cicatrix. These are a few of the many causes that may demand attention. Some authorities insist that this class of cases demands of the physician absolute frankness. I am not so sure about this. In fact if it was up to me I think I would move to amend by substituting for "absolute frankness," great tact. The absolutely frank physician will frequently experience the mortification of seeing his patient fall into the hands of some rival practitioner, who has less honesty but more sense. It is always well to be frank and candid, but don't overdo it. Be honest, but not too honest; sympathetic, but not too sympathetic; kind, but firm. Keep in mind the fact that the patient's sufferings are very real to her, or him, for it is not always a woman. Try to divert the patient's attention. This cannot be accomplished by telling her to stop thinking of herself or of her symptoms. She can't do this, and the physician or attendants must attract the attention in some other direction. This can be best accomplished by exciting the patient's anger. Apparent neglect or indifference are the means most generally employed.

Where both patient and friends are loud in their demands that something shall be given to produce sleep, I have had a good deal of satisfaction from the use of trional, ten to fifteen grain doses every hour. Sulfonal, fifteen to twenty grains in very hot water, given two hours before sleeping time, will often do good service. Fld. Ext. hops in ten to thirty drop doses has often helped me out. Passiflora tincture in from twenty drop to two teaspoonful doses is an elegant sleep producer, and often we will be driven back to the good old time-tried remedy of our grandmothers, asafoetida. I have used it with good results in from one-tenth to five grain doses.

Another remedy that I have learned to love is pulsatilla tincture, given in half-drop doses every hour. It is not a specific of course, and in many cases of hysteria is of no use whatever, but given a mild, gentle, blue-eyed, light-haired, weeping, weary, washed-out woman, and a physician who is being driven to drink, prayer or profanity, according to his individual taste and temperament, and pulsatilla will frequently prove to be like the shadow of a great rock in a weary land. Electricity, especially the static current, is recommended, but I have never tried it. In no class of cases will the physician find better or more frequent opportunities to make use of what is known as suggestive therapeutics. This form of treatment is based upon the well known influence of the mind over the body, or over any organ of the body. I believe no argument is needed at this

time to demonstrate the reality of this influence. The phenomenon of blushing, in which in obedience to a mere mental suggestion the capillaries become distended and the skin suffused and reddened with blood, would go far to show that the mind may change the nutrition of tissue and by so doing produce both functional and organic disturbances. And if produce, why not cure? Every successful physician from the time of Hippocrates, has used mental suggestion in some form, and always will. These suggestions may be made in words or by actions, but they should be definite and specific and serve in some way to attract the patient's mind from her ailment. One more word in closing: Don't be in too great a hurry to announce your diagnosis. There are excellent reasons for this. Remember there is always the possibility that your diagnosis may be a wrong one; and right or wrong, your patient will always consider such a diagnosis as a personal reflection. Her sympathizing family and friends are likely to agree with her, and while you are left to enjoy the doubtful satisfaction that comes from the practice of art for art's sake, your patient is likely to prove a constant source of revenue to somebody else.

WASHTENAW COUNTY.

Regular meeting at Ann Arbor, October 14.

PROGRAM.

Exhibition of Patients.

Reports of Cases.

Demonstration of Specimens.

"Surgery of the Stomach".....C. G. Darling
 "The Prophylaxis of Venereal Diseases,"

J. F. Breakey

J. W. KEATING, Secretary.

To the Officers of the County Medical Societies of
 the Second District:

Jackson, Oct. 10, 1903.

Dear Doctor:

Dr. Leartus Connor, chairman of the council of the Michigan State Medical Society, has requested that each councilor throughout the state call a conference of the officers of the various societies in his district, for the purpose of devising means for a systematic plan for increasing interest in the work in the various societies.

In conformity with this, with which I am in hearty accord, I have called a conference to be held at the Cook House, Ann Arbor, Wednesday, October 14, at 3 o'clock p. m.

As the Washtenaw County Medical Society holds its regular quarterly meeting in the evening of the same day, all physicians attending the conference are invited to be the guests of the former upon that occasion.

It is earnestly desired that each society be fully represented, to the end that mutual interests of all may be considered. I ask you, as an officer in your society, to make this sacrifice of time for the common good of all the societies in your district. It is expected that many of the officers of the state society will be present upon that occasion.

Very truly and fraternally,

A. E. BULSON,

Councilor, Second District.

WAYNE COUNTY.

Meeting, September 17th.

H. O. Walker read a paper on "Tetanus, Etiology, Diagnosis, Prognosis and Surgical Therapeutics."

E. M. Houghton read a paper on "Tetanus-Bacteriology, Serum Therapy with Animal Demonstrations" (to be published in December, 1903).

Discussion was opened by Angus McLean, followed by J. Sill, W. S. Anderson, C. T. McClintock, Chas. Douglas, A. N. Collins, and C. G. Jennings.

Angus McLean exhibited a new needle for use with the McGraw Elastic Ligature.

Meeting, October 1st.

OUR RECENT EPIDEMIC OF SMALLPOX.

By GUY L. KIEFER, HEALTH OFFICER.

Etiology—Between the years 1848-1898, there was very little smallpox in this country. About five years ago it was re-introduced into the U. S. by the soldiers returning from Cuba. Our doctors did not recognize it in many cases owing to their lack of practical experience with this disease. Fortunately for all concerned this epidemic showed principally the milder forms of the disease. It was called by many names such as Cuban Itch, Ranney-Baker Itch, Chicken Pox, Impetigo, etc.

Vaccination—The relation of smallpox to vaccination in the recent epidemic here is shown by the following figures: About four-fifths of the cases had never been vaccinated; about one-tenth had not been successfully vaccinated within the preceding five years. Only 32 out of 1,023 cases who contracted the disease were successfully vaccinated within the past five years. None of the doctors attending the cases in Detroit acquired the disease.

Diagnosis—The severe initial chill, which so many writers mention, was found in only about one-tenth of the cases, and the backache in about 50%. Headache and malaise were always present while sore throat and digestive disturbances were

very commonly met with. The eruption appeared about the third day, resembling in appearance a flea bite. This eruption appeared first on the face, inner side of fore arms and wrists. The umbilication and the shotty feeling of the eruption is too late a symptom to depend on for an early diagnosis. You can almost positively exclude smallpox if patient has a smallpox scar from a vaccination done within five years.

Differential Diagnosis—Before the eruption has appeared smallpox oftentimes simulates grippe and typhoid fever. At this stage a positive diagnosis is often impossible. After the eruption has broken out it may be confounded with pustular syphilide, chicken pox, measles, impetigo contagiosa, German measles, scarlet fever, vaccinia, pemphigus and urticaria.

Pustular Syphilide and Smallpox—Pustules are very much alike. History of case will frequently help in making the diagnosis. Pustule of syphilis appears very rarely on palms of hands, while smallpox pustule occurs more often in this location.

Chickenpox and Smallpox—Resemble each other very closely at times. Premonitory symptoms are very mild, if present at all in chickenpox. The vesicular eruption of chickenpox stands out like a tear drop on the abdomen and back, where it appears first. Later it is found all over the body. In 5 to 6 days chickenpox has run its course. Chickenpox is largely a disease of children.

Measles and Smallpox—On the first day they resemble each other. Bronchial cough of measles is not found in smallpox. The temperature in measles remains high after the eruption is out while in smallpox it drops.

Impetigo Contagiosa and Smallpox—Impetigo patients show little or no constitutional symptoms. The eruption of impetigo is usually limited to face. It starts as a reddish point with rapid tendency toward crust formation.

German Measles and Smallpox—In German measles there are no premonitory symptoms. The eruption of German measles in no way resembles smallpox. It appears around the neck and at back of ears and then extends to body. The post auricular glands are always involved in German measles.

Scarlet Fever and Smallpox—Headache and deranged stomach and bowels occur in both diseases, but the eruptions are very different.

Pemphigus and Smallpox—The former has no constitutional symptoms. The eruption consists of bullæ on all parts of body. These resemble small blisters.

Vaccinia and Smallpox—If a person exposed to smallpox is vaccinated, on the sixth or seventh day patient may have a flea bite eruption on body. It never goes any farther. Dr. Kiefer does not know whether this is smallpox or not. Inasmuch as smallpox is not contagious before vesicular stage, it does not matter what it is called.

Complications—Formerly the medical profession feared them. In this epidemic they were few in number and of a mild nature.

Impetiginous rashes may come on after smallpox has run its course, but the eruption responds readily to cleanliness.

Multiple Abscesses—Otitis media.

Eye Diseases—Conjunctivitis, corneal ulcers, loss of sight, lid involvement, etc.

Prognosis—Good in most cases.

Epidemics in the following cities during past year showed the mortality as follows:

San Francisco	5%
Buffalo	8%
Chicago	14%
Philadelphia	17%
Cleveland	18%
Boston	18%
New York	20%
Detroit	1%

Cases who had been vaccinated successfully within preceding five years all recovered. Alcoholics and newborn children bear the disease poorly. Hemorrhages from the internal organs were always fatal (in this epidemic).

Treatment—Mild cases need none.

Severer Forms—Cool room (65%).

Stimulants—Whiskey is best given freely and continually; strychnine is also given sometimes—not as good.

Morphine—Well borne—for restlessness.

Ichthyol oint.—10% for protection.

Surgical Treatment—Does not believe in it.

Pits—X-ray seems to give good results.

A. P. Biddle congratulated Dr. Kiefer upon the admirable manner in which the epidemic was handled. No such thing as the Cuban itch; most of the so-called cases of itch are impetiginous eruptions aggravated by scratching and lack of care. Difficult to state what constitutes immunity from smallpox. In most of the cases in which failure "to take" is reported, the failure is due to lack of proper technique in vaccination. In times of epidemic vaccination should be performed upon all persons not successfully vaccinated within a year. In his experience the greatest difficulty in differential diagnosis has been between chickenpox and the pustular syphilide in the acute stage and smallpox. The points of differential diagnosis well described by Dr. Kiefer—

only in time of an epidemic could impetigo contagiosa or pemphigus be mistaken for smallpox, when any unusual eruption might give rise to suspicion.

H. W. Longyear—Pain of the eruption on soles of feet and on palms of hand is very intense.

A. E. Carrier—Favors an isolation station where patients with symptoms resembling smallpox can be placed until positive diagnosis is made.

J. W. Ames—History of cases are often of great help. Slight pressure on vesicle of chickenpox makes it pop open while it takes a greater amount of pressure to accomplish the same thing with the vesicle of smallpox. Does not believe in an isolation station as suggested by Dr. Carrier, as it would soon become infected by patients suffering from smallpox detained to verify the disease, and those not suffering from smallpox would be exposed.

A NEEDLE FOR THE USE OF THE McGRAW RUBBER LIGATURE.*

ANGUS M'LEAN, DETROIT.

Since the adoption of the McGraw rubber ligature in surgery one of the chief obstacles to a finished technic in its use has been the fact that the ligature always made the orifice in the tissues much too large. The size of the needle required that the ligature might be threaded; this and the fact that it had to be double at the eye of the needle were the two chief factors in this trouble.

The style of needle represented here successfully overcomes the difficulty. It is so simple that its advantages must be self-evident, and yet it perfects the technic in the use of rubber ligatures.

A slot in the eye provides for the easy introduction of the ligature into the butt of the needle when put on the stretch; there is no threading necessary. When the ligature is introduced into the eye, much after the manner of the introduction of thread into the "blind man's needle," the short end is cut off close to the eye and a ferrule which closely fits on the needle is pushed snugly over the ligature and the eye, securely fastening it; or the ends may be stretched over the head of the needle, the ferrule pushed down and the short end then stretched and cut close to the ferrule. In this way the thickness of the needle at the eye end is increased only by the thickness of the ferrule, which is inconsiderable and the surgeon

has an opportunity for using the rubber ligature without appreciable increase of diameter at its point of entrance into the needle—something which we believe has not heretofore been accomplished in work with ligatures of this type.



Fig. 1

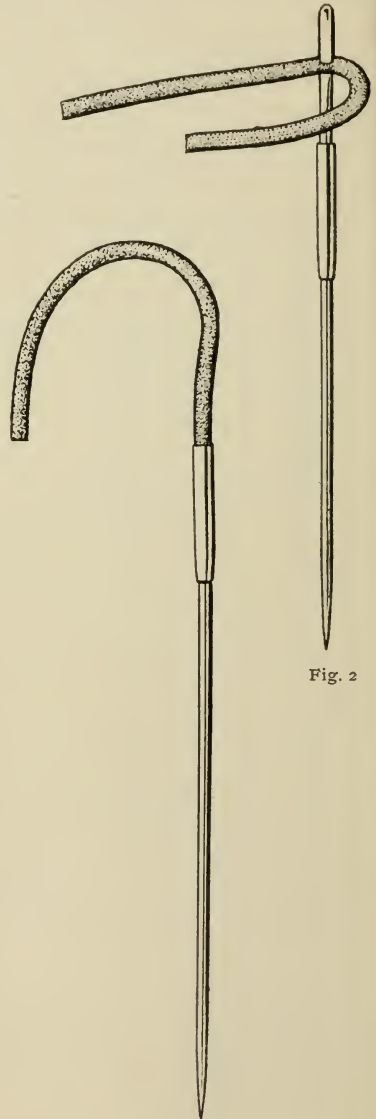


Fig. 2

Fig. 3

Fig. 1.—The needle in detail, showing split eye and ferrule.

Fig. 2.—The ligature in place and the ferrule ready to be pushed down while the ends are stretched over the head of the needle; or the short end may be cut off close to the needle and the ferrule pushed down.

Fig. 3.—The ferrule pushed down, ready for use.

*Since the above was presented a slight modification has been made to the improvement of the needle.

Meeting of October 8th.
METHODS FOR THE CURE OF STAM-
MERING AND STUTTERING.

GEO. ANDREW LEWIS.

Abstract.—History of earlier treatments.—Problem of the cure.—Broca's discovery.—Evolution of speech.—Relationship between the organs of utterance in the production of words.—Difference in manifestation, a difference in sounds encountered.—Closed consonants. — Continuous sounds.—Vowels—Modern methods of treatment.
Discussion general.

INTERNAL MEDICINE AND PATHOLOGY
SECTION.

Monday, Oct. 12.

RELATION BETWEEN DAY AND NIGHT
URINE IN HEALTH AND DISEASE.

CHARLES D. EDMONDS, ANN ARBOR.

Abstract.—This paper, after a discussion of the ratio of day to night urine in the normal individual, gives the results of observations made upon fifty-six patients in the medical clinic of the University Hospital at Ann Arbor, Mich. It shows the relative excretion of urine as modified by different diseases and by various drugs and also points out the clinical importance of such observations, especially as regards diagnosis. Finally it shows how the course of a disease can be traced by the changes taking place in the ratio, and what effect they have upon the prognosis.

Discussion—W. M. Donald, L. Breisacher.

GUY L. CONNOR, Secretary.

WEXFORD COUNTY.

Meeting October 1st, 1903, called to order by President B. H. McMullen. The regular routine of business received attention, followed by an address by the President, who reviewed the work the past year, and discussed the needs of a hospital. C. W. Moore read a paper on "Alkaloids," followed by general discussion. W. B. Wallace, of Manton, gave a paper on Erysipelas; paper discussed by the members.

The following officers were elected for the ensuing year: President, W. B. Wallace, Manton; Vice-President, E. B. Babcock, Kalkaska; Secretary-Treasurer, C. W. Moore, Cadillac; Board of Directors, J. A. Barry, Harrietta, S. E. Neihardt, South Boardman; E. A. McManus, Sherman. The Secretary's report showed an increase of seven members during the year. C. E. Miller, as delegate, reported the proceedings of the State Medical meeting.

G. D. MILLER, Sec'y.

MEETING OF THE STATE BOARD OF
HEALTH.

The Michigan State Board of Health met in regular session in the capitol, October 9, 1903. The members present were Hon. Frank Wells, President, Lansing; Victor C. Vaughan, Ann Arbor; Charles M. Ranger, Battle Creek, and Henry B. Baker, Secretary.

After the auditing of bills and accounts and the disposal of much other routine work, the board considered, discussed and approved a circular to be issued, entitled "Diseases Which Householdors are Required to Report." In this circular the State Board of Health declares consumption, pneumonia, cerebro-spinal meningitis, typhoid fever, diphtheria, whooping-cough, measles, scarlet fever, smallpox, glanders, and rabies (hydrophobia), to be dangerous communicable diseases, and therefore "diseases dangerous to the public health," required by law to be reported. This circular sets forth that every case of each of these diseases must be reported to the local health officer by the householder, hotel keeper, boarding house keeper or physician. The law is then quoted showing the duty of such persons to so report. The use to be made of such reports is not the same for all diseases, because the manner of spreading and the measures for the restriction are not the same for all diseases. Houses infected with some diseases are to be placarded, with others not. Persons having some of the diseases are to be isolated. Relative to each of those diseases, such facts are published by the State Board of Health, and a pamphlet on any one of these diseases, or on all of them, will be sent to any person interested, who requests it from the office of the board at Lansing.

The board authorized the printing of enough of these circulars to be sent to all health officers, presidents and clerks of local boards of health in Michigan, and other persons interested, including clerks of boards of supervisors.

The board decided to hold the regular annual conference of health officials in Michigan at Ann Arbor, January 7 and 8, 1904, and Dr. Vaughan was appointed a committee to make all necessary arrangements for that meeting. January 6, the day before the beginning of the conference, was decided upon as the date for the next examination of candidates for embalmer's license, to be held at Ann Arbor.

President Wells was appointed delegate of the board to attend the conference of state and provincial boards of health of North America, October 23-24, 1903, at Baltimore. Hon. Henry A. Haigh was selected to represent the board at the

meeting of the American Public Health Association at Washington, October 26-30, 1903.

A proposed plan for the examination of the eyes and ears of school children was discussed, it being claimed that much good will result from having the eyes and ears of all children in school examined. The subject was referred to a special committee of the board.

It having been decided that an exhibit will be made at the Louisiana Purchase Exposition, the nature and extent of the exhibit by this board was referred to the president and secretary.

An act relative to meat supplies, passed by the last legislature, went into effect September 17, 1903. It provides that cities and villages may appoint inspectors of animals and meat supplies intended for food, license the sale thereof, regulate slaughter-houses and abattoirs, markets and vendors' vehicles. This is to be done by ordinance, as is also the establishment of tests and requirements, to exclude unwholesome articles of meat food. The act is made to apply to such supplies coming from within or without the jurisdiction of the city or village. On motion of Dr. Vaughan, it was voted to issue a circular transmitting a model ordinance, based upon this act, prepared at the instance of Rev. Caroline Bartlett Crane, of Kalamazoo, the circular, etc., to be sent to health officials of cities and villages throughout this state.

The board authorized the secretary to have engraved and issued to each licensed embalmer in the state who complies with the law, a suitable renewal license, which may be kept by him in connection with his original license, and which shall serve to show the validity of his original license and the period of time covered by such renewal. In connection with the renewal license, a pocket renewal. This card is to be carried by the embalmer whose license is renewed, stating the number of his license and the period covered by renewal. This card is to be carried by the embalmer, to prove to railroad and other transportation agents his identity as a licensed embalmer, authorized to prepare dead bodies for transportation.

The secretary presented to the board his quarterly report of work done in the office during the quarter ending September 30, 1903. This report includes a statement of the number of outbreaks of dangerous communicable diseases reported and acted upon during the quarter, as follows: Diphtheria, 95; measles, 99; whooping-cough, 100; smallpox, 104; meningitis, 116; scarlet fever, 151; typhoid fever, 266; consumption, 369; total for the eight diseases, 1,300 outbreaks. Compared with the average in corresponding

quarters in the ten years, 1893-1902, the reports from regular observers indicate that in the third quarter of 1903, diphtheria, pleuritis, scarlet fever and smallpox were more than usually prevalent; and meningitis, cholera infantum, cholera morbus, consumption, dysentery, erysipelas, intermittent fever, and remittent fever, were less than usually prevalent.

CHANGES IN MEMBERSHIP.

Sept. 15 to Oct. 15.

G. L. Alger, Saginaw, Mich.
G. Bates, Kingston, Mich.
R. B. Bennett, Brant, Mich.
A. L. Blanchard, Northville, Mich.
W. Doran, Detroit, Mich.
Marco Furno, Detroit, Mich.
A. J. Howell, Novesta, Mich.
J. B. Kennedy, Detroit, Mich.
R. L. Kennedy, Detroit, Mich.
F. P. Kenyon, Plymouth, Mich.
R. E. Loucks, Detroit, Mich.
A. D. McEachran, Detroit, Mich.
W. J. O'Reilly, Saginaw, Mich.
T. H. Ransom, Bloomington, Mich.
W. A. Royer, Mendon, Mich.
M. Springer, South Haven, Mich.
J. B. Thelan, Charlevoix, Mich.
O. M. Vaughan, Covert, Mich.
A. H. Wilton, Jackson, Mich.
W. C. Wright, Gregory, Mich.

CHANGE OF ADDRESS.

J. T. Bird to Clarkston, Mich.
J. C. Brown to Battle Creek, Mich.
O. H. Bruegel to Agricultural College, Mich. (Box 55).
E. L. Clawson to Oklahoma City, O. T.
J. A. Fraser to Lexington, Mich.
S. E. Hooper to West Branch, Mich.
W. J. Kay to Lapeer, Mich.
A. S. Kitchen to North Escanaba, Mich.
J. G. R. Manwaring to Flint, Mich.
L. P. Parkhurst to Grand Rapids, Mich.
G. A. Smale to St. Charles, Mich.
S. Stevens to Kalamazoo, Mich.
G. L. Tiffany to Indian River, Mich.
E. R. Williams to Coldwater, Mich.

DEAD.

P. D. Patterson, Charlotte, Mich.
H. M. Ptolemy, Brighton, Mich.

LEFT STATE.

Arthur Austin, Fowlerville, Mich.
G. W. Goss, Hartland, Mich.

PERSONAL MENTION.

Drs. H. E. Randall and W. J. Kay of Lapeer have entered into partnership.

DEPARTMENT OF HEALTH.

CITY OF PORT HURON, MICH.

REPORT OF VITAL STATISTICS

for the Month of September, 1903.

CAUSES OF DEATH

Apoplexy	I
Cerebral Spinal Sclerosis	I
Locomotor Ataxia	I
Concussion of Brain	I
Icterus	I
Pulmonary Tuberculosis	I
Capillary Bronchitis	I
Heart Disease	I
Peritonitis	I
Ulceration of Stomach	I
Typhoid Fever	I
Malarial Fever	I
Remittent Fever	I
Obstruction of Intestines	I
Cholera Infantum	3
Chr. Intestinal Indigestion	I
Bright's Disease	I
Acute Nephritis	I
Chronic Nephritis	I
Acute Congestion of Kidneys	I
Disease of Liver and Kidneys	I
Inanition	I
Puerperal Fever	I
Cancer of Uterus	I
Cysto-Sarcoma	I
Still Birth	3
Old Age	I

CONTAGIOUS DISEASES REPORTED DURING MONTH

Typhoid Fever	3
Consumption	I
Measles	0
Diphtheria	0
Scarlet Fever	4
Smallpox	3
Whooping Cough	0
Chicken Pox	0

CONTAGIOUS DISEASES REMAINING ON HAND
AT END OF MONTH

Typhoid Fever	2
Consumption	3
Diphtheria	0
Scarlet Fever	I
Measles	0
Smallpox	3
Chicken Pox	0

A. H. COTE, M. D., Health Officer.

Obituary.

PHILO D. PATTERSON.

Philo D. Patterson, for the past thirty years an honored citizen of Charlotte, died September 26th, at his home, his death resulting from a cancerous growth of the throat.

HIS EARLY LIFE.

Dr. Patterson was born in Eckford, Calhoun County, June 8, 1843. He received his early education in the district schools at Eckford, afterwards entering Hillsdale College. When the civil

war broke out young Patterson was in college, but his desire to enlist is not strange as his ancestry took part in several of the leading engagements fought during the Revolutionary war. Alexander Patterson, his great-great-grandfather, was at Bunker Hill, and Joseph Patterson, his great-grandfather, did gallant service under Washington, at White Plains, while a member of General Stark's brigade.

He enlisted in the 6th Michigan Infantry, returning home with his regiment in 1865. It was during his army service that he took his first lesson in surgery, having been assigned to duty for several months in the army hospital at Nashville, Tenn. Upon his return from the army he completed his course at Hillsdale College and was given his B. Sc. degree.

RANKED HIGH AS A SURGEON.

Shortly afterward Mr. Patterson entered the medical school at the University of Michigan, graduating with high honors in 1869. Later he took several post graduate courses at Detroit College of Medicine. Dr. Patterson first commenced the practice of medicine at Carlisle in 1870, where he remained until 1872, when he was elected county clerk on the Republican ticket and came to this city. He was twice re-elected, and at the expiration of his last term continued to make this city his home.

In a professional sense, Dr. Patterson's name came to be a household word in nearly every home in the county. He loved his profession and up to the date of the commencement of his fatal sickness, personally looked after his professional duties. While his judgment in the sick room was always admitted to be of the very best, Dr. Patterson took high rank as a surgeon. In this branch he was in a class with the late Dr. Donald MacLean, of Detroit. During his long years of practice he has performed more operations than any other man in the county. Many of his operations have been the subject for discussion at medical meetings and he was regarded as one of the most capable surgeons among the profession in the State. Dr. Patterson was elected president of the State Medical Society in 1900, and was also a member of the American Medical Association.

Deceased was a prominent Mason, having attained the 32nd degree in the fraternity.

Dr. Patterson took more than an active interest in local affairs; he served many years on the school and library boards, serving as president of the latter when negotiations were opened with Mr. Carnegie for the new library the philanthropist recently presented to the city. He also served many years on county examining board and common council. In April, 1871, he married Miss Augusta F. Bickford, of Eckford, who with two daughters, Mrs. Mabel Falconer and Miss Louise Patterson, survive him.—*Charlotte Republican, October 2, 1903.*

Communications.

RECIPROCITY.

Sault Ste. Marie, Mich., Sept., 21, 1903.

A. P. Biddle, M. D., Sec'y Mich. State Medical Society, Detroit, Mich.:

My Dear Doctor.—I beg to notify you that a meeting of the Confederation will be held at the Southern Hotel, St. Louis, Mo., Tuesday, October 27th next, at 2 p. m. This meeting will not only be of great interest, but promises to be exceptionally well attended by representatives of State boards desiring practical interstate reciprocity in medical licensures in the near future.

Reciprocity certificates are at this time being issued daily between several of the states; members of and in sympathy with the Confederation, and the executive officers of such reciprocating boards will be present at the meeting and will severally give brief addresses upon "Reciprocity from the Standpoint of Experience in the Interchange of State Licenses." Several eminent medical men throughout the United States, not directly connected with medical boards, have been invited to attend the meeting and to take an informal part in the proceedings. Among others who have accepted are: Frank Billings, of Chicago, President of the A. M. A.; William E. Green, Little Rock, Arkansas; Member Committee on Medical Examining Boards, A. I. H.; Charles A. L. Reed, Cincinnati, ex-President A. M. A.; and Frank J. Lutz, St. Louis, Secretary-General of the World's Congress of Medicine, 1904.

Yours very truly,

B. D. HARISON, Sec'y.

Philadelphia, Oct. 1st, 1903.

Mr. Dear Dr. Harison.—I have been holding your letter of the 3rd inst., since my return from my vacation, in order that I might answer definitely whether it would be possible for me to be in St. Louis in October. I must be in Chicago shortly, and if I can arrange for the Chicago business to take place about the time of the St. Louis meeting, it will give me pleasure to be in attendance. I will write you within a week if I can accept your kind invitation.

I need not say to you that I am in very great sympathy with the movement, and hope to be able to assist you in furthering the cause you represent.

Yours very truly,

J. H. MUSSER.

President-Elect A. M. A.

Johns Hopkins University,

Baltimore, Md., Sept. 28, 1903.

Dr. B. D. Harison, Secretary, Sault Ste. Marie, Michigan.

Dear Doctor.—The subject upon which you write interests me intensely. It is a move in the right direction, and worthy of the support of all practitioners throughout the country. It would be very important to get the active co-operation of the New York and Pennsylvania Boards. I do not see them among the signatures. If this is the date, October 27th next, I shall be glad to attend the meeting and shall be very glad indeed to participate. It would be well to ask some representative from the Maryland State Board. Would it not be well to stir up the net and get the boards thoroughly agitated, so as to get pressure to bear upon the State Boards at each meeting of the State Medical Societies?

With kind regards,

Sincerely yours, W. OSLER.

TO SECURE DATA REGARDING THE PREVALENCE OF VENEREAL DISEASES IN MICHIGAN.

To the Members of the Michigan State Medical Society:

There are still a few members (I think about fifty) who have not reported their venereal cases to the committee appointed at the last meeting of the State society. In the August number of the JOURNAL will be found a blank, which please fill out and send to the chairman of the committee.

ALBERT E. CARRIER,

423 Stevens Bldg., Detroit, Mich.

Ovid, Mich., October 20th, 1903.

A. P. Biddle, Secretary Michigan State Medical Society, Detroit:

Dear Doctor—Your letter of appointment by the President as Lecturer of this district duly reached me and for which I beg to thank you. I have this day corresponded with the Secretaries of the County Medical Societies of the eighth district, placing myself at their disposal.

Yours very truly,

O. B. CAMPBELL.

REPORT OF LECTURER, 3RD. DISTRICT.

BATTLE CREEK, Mich., Oct. 21, 1903.

EDITOR:—Inasmuch as the office of Lecturer, appointed under the Michigan State Medical Society, is somewhat new and, as no reports have been made that I have seen coming from any lecturer, I will make you a brief report of how

I found matters in Branch County when I visited the Branch County Medical Society at Coldwater, October 13, 1903, in company with W. H. Haughey, Councilor for the Third District. On account of delayed trains we had but a brief time to spend with the Society. We met at 2 o'clock in the Court House, there being present ten members, and, as this was practically the first meeting of the Society since the reorganization, the routine business was laid over while Dr. Haughey and myself improved the time to read papers and discuss the benefits of perfect organization.

Dr. S. H. Clizbe, of Coldwater, is President of the Society, and Dr. Samuel Schultz, of Coldwater, is Sec.-Treas. The meeting was quite enthusiastic and showed very plainly that the members well realized the importance of unity and harmony of action, which must necessarily be in order to make a good medical society. Dr. Haughey discussed "The benefits of County Organization and the Relation of the County Organization to the State Society," after which he read a paper on some "Neglected Points in Surgery." I read a paper entitled "Diabetes Mellitus, with Special Reference to Diabetic Coma and its Arrestment." It gives me pleasure to say that these papers were received with a great deal of satisfaction, and considerable interest was shown in the hearty discussion and the numerous questions asked.

I shall send you a report of my next meeting, which will be Thursday, October 29, at Grand Ledge, with the Eaton County Medical Society.

Sincerely yours, JAMES H. REED,
Lecturer, 3rd District.

Book Notices.

OCULAR THERAPEUTICS, ACCORDING TO THE MOST RECENT DISCOVERIES. By A. Darier, translated by Sidney Stephenson. London: J. A. Churchill. 1903. Cloth, pp. 278.

To this work the French Academy of Medicine awarded the Desportes prize (1902) as the "best work published on practical therapeutics." It embodies the results of twenty years' ophthalmological study and practice, in the writer's efforts to cure disease.

No ophthalmologist can afford to neglect such a record of practical experience.

Twenty-six lectures covering two hundred and seventy-eight pages, translated by Sydney Stephenson, make this record available to the English speaking physician. It is more than a mere clinical record, in that it embodies the author's original experiments on many mod-

ern remedies, and not a few of the older ones. Twenty years has added much to the materials for the management of eye cases—and Darier has industriously utilized them for the promotion of his favorite study, ocular therapeutics. In an age when cutting operations dominate unduly all medical study and work, it is refreshing to see a scientific presentation of the resources of therapeutics.

The ophthalmic surgeon who has kept step with the events of each day, will find nothing absolutely new, but he will find these events classified in a convenient form, and discussed with ability, so that he will gain a new force therefrom helpful in his work. The bricks and mortar, the wood and iron, have been wrought into a structure insuring their permanence, as isolated facts easily escape the memory.

It is not to be expected that Darier has said the last word on any of the topics he discusses—or that he has said the wisest—he merely presents his own judgment founded on personal study—of past knowledge blended with the present.

He discusses in order; the anesthetics—cocaine, eucaine, holcaine, etc.; atropine, euphthalmine, etc., among the mydriatics; eserine and pilocarpine among the myotics. Among the modifiers of vascular tone he places the extract of supra-renal capsule; which applied to the conjunctiva produces a profound anæmia; or injected under the conjunctiva a marked reduction of intra-ocular pressure.

He brings into prominence the agents which modify deep sensibility as dionin and other derivatives of morphia, for which he claims unsuspected vaso-dilator properties—the capillaries becoming three times larger and the lymphatic vessels tenfold.

Antiseptics are fully considered in connection with conjunctivitis and diseases of the edges of the lids.

Nor does he overlook the physical agents of heat, cold, electrotherapy, massage, etc. Of sub-conjunctival injections he has a favorable opinion in many pathological conditions—a judgment more favorable than obtains generally in this country.

Of the salts of silver with organic acids, he has a high regard—believing that protargol can successfully do all and more than silver nitrate, and so avoid the discomfort and danger of the latter. Had his work been written later he would doubtless have ranked argyrol even higher, as it contains even more silver and is less irritating.

In common with progressive oculists he urges the use of the microscope and staining solutions

to differentiate the varieties of conjunctivitis at the stage when clinically one is much like the other, believing that such accurate diagnosis is the only rational basis for either diagnosis, prognosis or treatment.

Most interesting are his chapters on glaucoma. He still holds that the only treatment is iridectomy. Other remedies render its performance safer and more effective, but they fail to displace it in any form of the disease.

Without full acceptance, he presents Zimmerman's theory of glaucoma—as due to a disturbance of the normal equilibrium between blood pressure and intra-ocular tension, which at the beginning could be restored by giving the patient a cardio-vascular tonic. The events in the progress of glaucoma by this theory are diminished supply of blood to the interior of the eye by the central retinal artery—retinal anæmia—impaired nutrition of the capillaries—transudation of the leucocytes—exudation of serum—œdematous infiltration, which helps to raise intra-ocular pressure—compression of the ciliary veins by the increased intra-ocular pressure—ciliary hypersecretion—swelling of the entire ciliary body with compression of the irido-ciliary angle. Apparently, this theory satisfies the requirements of the case, but farther clinical observation and experimental therapeutics are needed ere it secures general acceptance.

No person interested in ophthalmology can afford to neglect the pleasure of reading this book with studious attention—for the enthusiasm shown in a much neglected field—if not the novelties presented. Its style is natural, and arrangement of topics lucid after the manner of his race.

THE MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT. Published by the New York State Medical Association, 64 Madison Avenue, New York. Vol. v., 1893. Cloth, pp. 1030.

This is a most admirable book in both design and execution. From it one may ascertain concerning every member of the profession in three states, the facts, as to his Society membership, hospital or dispensary appointments, residence, office hours, telephone call, college and year of graduation. Paper of different tints indicate the part of the book containing lists of the Society members in the separate states.

Of the fourteen thousand five hundred and twenty-four physicians, above eleven thousand three hundred are in New York. Of these five thousand five hundred and eighty-nine are in greater New York—almost half the total in the State.

Accurate information is given of every hospital and dispensary, as to staff, superintendent, location, times for receiving patients, free or pay, and such other facts as are needed occasionally by members of the profession in or without those states.

Every medical society with its officers, times of meeting, place of meeting, conditions of membership, dues, etc., is listed. The Constitution and By-Laws of the New York State Medical Association are given.

A full list of the permanent members of the Medical Society of the State of New York is given—and all the essential facts relating to the organization.

The requirements for the practice of medicine in the several states are given in full detail—lists of examiners, dates of examination and place of same, etc.

In short this is a veritable encyclopedia of all matters relating to the medical profession within its limits—three states. It should be within reach of every physician who has occasion to do business with the profession. Accurate, reliable information of this sort is difficult to secure, and so the book is very welcome.

THE PRINCIPLES AND PRACTICE OF SURGERY, DESIGNED FOR STUDENTS AND PRACTITIONERS. By George Tully Vaughan, Assistant Surgeon-General, Public Health and Marine Hospital Service of the United States; Professor of the Principles and Practice of Surgery, Georgetown University, Washington, D. C. Philadelphia and London: J. B. Lippincott Company. 1903. Cloth, pp. 569.

This is one of Lippincott's new Medical series, edited by Francis R. Packard, and prepared for the general practitioner and medical student. Because of this no mention is made of the several branches of special surgery as ophthalmology, otology, etc. There are two hundred and eighty-one illustrations, many taken from such well known books as Gray's Anatomy; International Clinics; Agnew's Surgery, etc., etc., hence they lack novelty—so losing one charm of a new book.

The general divisions of the work are: 1. General Surgery and 2. Surgery of Systems and Regions. In common with other surgeries it still classes Tuberculosis, the Plague, Syphilis and Chancroid, Glanders, etc., as surgical affections—so perpetuating an antique conception. This is the more noticeable because there are excellent special works treating of each topic, quite as much as ophthalmology or otology. Both the latter are mainly surgical, while tuberculosis and syphilis are not. If from general surgery were taken all subjects treated by monographs, and all that are purely medical or pathological, little would remain.

In general, considering limitations of space, Dr. Vaughan has done his work well. The student will find concise accurate accounts of the subjects discussed, presented in such form as to be readily comprehended, and utilized. This latter quality is especially valuable, for unless the doctor has at hand what he needs, emergencies will cause his downfall.

The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

VOL. II

DETROIT, MICHIGAN, DECEMBER, 1903

NO. 12

Original Articles

THE OMENTUM.*

W. H. HAUGHEY,
Battle Creek.

"There are more things in heaven and earth,
Horatio, than were ever dreamt of in your philosophy."

As the wonderful functions of the omentum, with its instinctive, almost intelligent, action, begin to dawn upon me, the truth of the above quotation appears in a stronger and brighter sense than ever before.

During my college days I was taught, and read in my "Gray," that the omentum was merely a fold of the peritoneum reflected from the stomach and to a lesser extent from the liver, spleen, and transverse colon. It was described as thin, cribriform, consisting of two membranous layers, vascular, and always containing some adipose tissue. Its function was supposed to be "to protect the intestines from the cold, and to facilitate their movement upon each other during their vermicular action." (Gray.)

The inquiring mind of progressive surgery, which explores many abdominal cavities in living subjects, unable to always reconcile conditions of the omen-

tum, both physiologic and pathologic, seen there with those mentioned above, has forced the study of this important structure, and brought to light many of the hidden functions and pathologic conditions of this hitherto neglected member.

To H. O. Marcy, of Boston, that paragon in abdominal surgery, that wonderful man, who by his lovable personality, coupled with his acknowledged scholarly attainments and pronounced professional ability, has done so much to advance surgical knowledge both in this country and in Europe, and who for his very worth we all delight to honor, is due the credit of having presented to the gynecological section of the A. M. A. at Saratoga last June one of the most complete, thorough and comprehensive expositions of this subject that it has ever been my privilege to listen to. You will find it printed in *The Journal of the American Medical Association* for August 30, 1902. It is well worth perusing. I heartily commend it to your earnest consideration.

If we accept the early teaching and look upon the omentum as a fold of the peritoneum, ascribing to it the functions of keeping the intestines warm and protecting them somewhat from injury, we will still be at a loss to account for the many and varied changes found in its substance by surgeons who have frequent opportunity to investigate it.

*Read before the Section on Surgery at the annual meeting of the Michigan State Medical Society at Detroit, June 11, 1903, and approved for publication by the Committee on Publication of the Council.

If, however, instead, we follow the more recent physiology which treats it as an enormous glandular structure, with all the functions of lymph glands as well as many others peculiar to itself, we can more readily understand the behavior of this wonderful structure. In fact this view seems forced upon us as we study carefully into the anatomy of the omentum and note that its enormous blood supply is equaled by an also enormous distribution of lymph channels, which in truth accompany and are coextensive with the vascular supply.

The nerves distributed to these vessels arise in the celiac plexus, thus establishing the connection with the sympathetic system. Might not this justify the belief that the omentum exercises a selective action in maintaining a stable equilibrium of the fluids of the abdominal cavity? Dr. Marcy raises a query that, "if in a certain way it may not also exercise a so-called phagocytic power in limiting infection in the abdominal cavity?" and calls attention to the marvelous manner in which an infected area, as a diseased appendix, Fallopian tube, or an incision made in an infected case, is isolated by 'a seeming conscious and thoughtful sacrifice, where a portion of this great fatty apron is wrapped around the offending member or part, and an enormous exudate of lymph cells are thrown out, thus completely walling off the diseased portion.

Beautifully illustrating this point, allow me to present plaster casts of two appendices removed within the last year. In each case the omentum has completely isolated the diseased part; in the one only the distal end of the appendix was inflamed, but note with what exceeding great precaution the omentum has gone

on throwing out lymph cells until a large mass, a score or more times larger than the disease itself is formed around it. In the other case the entire appendix was involved and is entirely enveloped. You will notice where it has been reflected back to allow the appendix to appear, which for ease of observation I have stained red.

Interesting indeed is the study of processes going on in this enormous protective hyperplasia. Not only does the mass consist of newly formed lymph cells, but being richly supplied with blood as well, all the conditions for a battle royal between the phagocytes and invading germs, also for lymphatic absorption, are present. Thus not only does the omentum furnish an abundant protection to surrounding parts, but by its ever seemingly thoughtful solicitude for the general good provides a battle ground for phagocytosis; nor does it consider its work done until its increased number of lymph cells and channels have absorbed and carried away the last vestige of the "relics of battle," and in many instances does not rest until the entire diseased organ is absorbed, thus rendering a future invasion impossible.

Wonderful and astonishing as is this protective action when dealing with inflamed appendices, it is not more so than the efforts made by this same interesting structure when trying to protect the intestines from incarceration in hernia. Here again its seeming intelligence is shown by its rushing to the site of the injury as soon as it occurs, insinuating itself around it and, if a sac is formed, being the first to force itself inside where by an increased deposit of fat it endeavors to so fill up the space as to leave no room for the intestines. This occurs in all

forms of hernia, scrotal, femoral, ventral and umbilical.

Where trauma of the abdominal parities or contents occurs, here again will the omentum be found folding itself around and overlapping the injury until a perfect, or as nearly so as possible, protection is formed. And when infection comes in, whether from a ruptured appendix, pyosalpinx, infected uterus, ruptured gall ducts, or other cause, it immediately hastens to the invaded spot and through its enormous supply of lymph channels and glands acts as a great sponge in absorbing the septic fluids. If this action is sometimes disastrous the explanation may be found in the fact that the quantity absorbed is greater than the number of phagocytes in the normal omentum can destroy, and the rapidity of absorption is such that time does not permit a sufficient hyperplasia of the omental tissue to supply the necessary reinforcements to prevent the toxins reaching the general circulation. Consequently septicemia develops.

Wonderful indeed are the factors engaged in the life problem! Amazing are the dangers that constantly surround it! Astonishing are the provisions placed by an all-wise and omnipotent Creator to aid in its perfect solution!

Manifestly no part of an organ of such confessed importance should be sacrificed lightly. Where thickened portions exist, unless the offending element causing the thickening can be removed with them, they should be retained. Folded parts should be carefully spread out. When drawn up either by the Trendelenburg position or pushed up by means of the fingers, it should *always* be carefully brought down before the abdomen is closed, and where rents are made in it

from any cause they should be either patched by another portion or drawn together and lightly sewed. It is true that there are cases where large portions may and should be removed, as it is safer than to return them into the abdominal cavity. One word of caution which may be put down as a cardinal principal in removing portions of the omentum: *Never ligate en masse*, but always in small sections; otherwise serious hemorrhages will occur and fatal ones have.

Wiggin of New York suggests as a means of restoring the omentum to its normal position and the prevention of adhesions after intra-abdominal operations, washing out the cavity with saline solution, leaving it full of the same, and closing without drainage. This procedure I fully believe to be rational, especially so in infected cases, where, however, we should always use drainage.

Multiple cysts, neoplasms, dermoid cysts, tubercular deposits, cancer, and cystic tumors of considerable size have all been reported. Cysts, whether multiple, multiocular, or single, might easily be caused by a stopping up of one or more of the lymph ducts or channels, causing a large deposit of cystic fluid back of the occlusion. Neoplasms, cancerous or otherwise, are more often secondary in the omentum than primary. Colonies of the bacillus tuberculosis may become lodged and cause a condition of milliary tuberculosis, which, however, at first may offer some difficulty of diagnosis.

Of profound interest, so much so that I must hazard a little repetition here, is the inquiry into the ultimate results of the absorbent function of the omentum when septic fluids get into the abdominal cavity. Its power of absorption is so great that large quantities are taken up

in short intervals of time. This is done with the evident purpose of protecting the peritoneum from its irritating action and a resulting septic peritonitis. However, may it not occur that such large quantities are taken up and so rapidly, as in the case of a ruptured bowel, that for lack of time phagocytosis cannot be completed in the omentum, thus forming an avenue for the induction of septic material in such quantities that general septicemia is the result?

What I consider a beautiful illustration of this unfortunate condition was furnished me a few weeks ago. A young man (farmer) shortly after supper was driving the horses to hoist hay into the barn by means of what is known as a horse fork. By this process the horses walk forward a short distance pulling smartly while the fork load is going up, and then back until the empty fork returns. This young man was walking behind the horses urging them to vigorous action when the whiffletree suddenly broke. The end flying back with terrific force struck him in the abdomen. Although almost immediately attended by an excellent physician, something like fifteen to eighteen hours passed before the surgical importance of the case was recognized. I saw him the next day a little after noon. He was then moribund with all the symptoms of septic toxemia, and died an hour or two later. Could such profound results be caused in so short a time by peritonitis alone? Absorption by the omentum greatly simplifies the case to me and forces the necessity of *immediate* operation in such cases more strongly on my mind.

Had a surgeon been at hand within an hour, opened the abdomen, sutured the ruptured intestine, and flushed the cavity

with saline solution undoubtedly this life might have been saved. Too much emphasis cannot be laid on the importance of *immediate surgical* treatment in these cases of severe injury to the abdomen, *especially* if received shortly after a meal when the stomach is full. In such cases *rupture* is much more apt to occur, *and if it has occurred* the case is *fully a surgical* one; no other treatment is of the slightest avail. (The above was written 10 months ago.)

Recent investigations show that the enormous powers of absorption of the omentum admit of the taking up of the septic material in the peritoneal cavity so rapidly as to completely overwhelm all efforts at phagocytosis. This factor should be borne in mind in a case of ruptured intestine by accidental means and an operative procedure instituted at once.

A STUDY OF SOME DIFFICULTIES IN THE USE OF THE OBSTETRIC FORCEPS.*

JAMES E. DAVIS,
Detroit.

The functions of the obstetric forceps are four in number, viz: (1) As a tractor; (2) as a compressor; (3) as a rotator; and (4) as a dilator, lever or irritator. There are four applications, designated as: (a) *forceps upon the floating head*, that is, when it is freely movable above the pelvic brim; (b) *high forceps*, when the greatest circumference of the head has not passed the superior strait; (c) *mid forceps*, when the head presents at or just above the ischial spines; (d)

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low forceps, when the presenting part is upon the perinæum or below the junction line of the ischial spines.

Indications for forceps arise from anomalies of (1) the expellant forces, (2) of the passages, (3) of the passenger, or (4) because of complications of labor, apart from the mechanism. The following prerequisites should obtain for safety in operations with the obstetric forceps:

(1) The child must present correctly; (2) the cervix must be fully dilated or dilatable; (3) the membranes must be ruptured; (4) the head of the child must be neither too large nor too small; (5) the disproportion between the fetal head and pelvic canal must not be too great; (6) the child must be living and viable unless extraction can be done very easily; (7) the biparietal diameter should have descended, or permit of descent, by suprapubic pressure to the level of the pelvic inlet.

In the foregoing, I have enumerated the classic relations of the function, application, indication and prerequisites or contraindications of the obstetric forceps for convenience and utility in the study of some difficulties not infrequently presented.

The most important function of the obstetrical forceps is that of traction, which supplements a deficient *vis-a-tergo* by sufficient *vis-a-fronte* to effect delivery. If the forceps have not a good grasp of the head, the traction force must be weak. It is advisable that Smellie's rule be observed, which requires that the application be made to the sides of the child's head, so that the grasp may be in the biparietal diameter. A rigid grasp of the head is usually contraindicated, because the natural mechanism is hindered, and compression force obtained from the blades

applied in relation to the lateral walls of the pelvis is usually in the direction least needed. Usually, if the operator will introduce his hand sufficiently far enough to find the direction of the rim of the posterior ear, thereby positively diagnosing the position of the head, and follow with a slow and careful introduction of the blades, little difficulty will be experienced in the cephalic application.

To secure every advantage of the tractive force, its direction must necessarily correspond with the axis of the birth canal. The line of least resistance must be followed closely. With the long forceps, the mid and the high operation is frequently very difficult, because of the shape of the birth canal the forceps will not permit of force being exerted in the axis of the superior strait. Tarnier demonstrated that a force of forty pounds employed in an ordinary high forceps application would be divided into a force of thirty pounds directed in the axis of the superior strait, thus promoting descent, and another of twenty-six pounds directed against the symphysis pubis. This latter force is not only lost, but certainly retards delivery. The axis traction attachment, if correctly used, is here of utmost advantage, since it enables the exertion of force in the correct axis, which is a straight line passing through the umbilicus and the tip of the coccyx. Traction is to be made with the arms only, and the duration of each pull and pause should last about one minute each, the forceps being unlocked during the pause.

There are three postures obtaining when the forceps are to be applied, viz: The lithotomy, the Walcher, and the dorso-convex. The sacro-iliac joints have considerable mobility, and the sacral promontory is in a plane above and in front

of the axis of rotation. The forward and backward movement of the promontory, with the movement of the sacral tip in the reverse direction, is in accord with the changing inclination of the pelvis.

Therefore, when the extreme lithotomy position is utilized, the conjugate diameter is shortened, making this position the choice for extraction at the outlet of the bony pelvis. The effect of the Walcher position is to lengthen the conjugata vera. Kutner observed in one case a gain of 1.4 centimetres. This position is of great advantage in the class of cases where engagement fails to take place after the cervix is fully dilated, because of contracted pelvis or large fetal head, and also in every high application until the largest circumference of the head has passed the brim.

The dorso-convex position obtains when the patient lies upon the back on any yielding surface. Therefore, since the bed, with the patient's weight upon it, destroys the correct pelvic axis and does not permit of full modifications of the pelvic diameters, removal should be made to a table whenever the forceps operation presents the least difficulty.

In obliquely posterior positions of the head which have resisted all attempts to rotate the occiput to the transverse position, a difficult delivery is presented. In these cases the small fontanelle will usually be found directed towards the right or left sacro-iliac synchondrosis.

The first and important step is to rotate the sagittal suture into the antero-posterior diameter. This is best accomplished by Scanzoni's manœuvre, which applies the blades to the sides of the head with the pelvic curve directed towards the child's face. Then rotating the occiput through an arc of 135 de-

grees to the symphysis pubis, in which position the pelvic curve of the forceps is now directed posteriorly, a reapplication should now be made for ease of delivery and safety of the perineum.

The problem in all posterior positions is that of good flexion which, if maintained from the entrance at the superior strait to the exit at the inferior strait, there will be but a little more difficulty than with anterior positions. Reynolds (1) says: "There is no variety of labor in which easily avoided ill results are so commonly incurred as in posterior positions of the vertex."

After occiput posterior positions of the vertex an exaggerated inclination of the pelvis is the most frequent cause of delayed labor. Transverse positions at the brim are more frequently due to the excessively inclined pelvis than to a shortened conjugate.

An important essential in facilitating labor is, that the axis of the uterus approximate a right angle with the pelvic brim. A pendulous abdomen may cause the fundus to bend decidedly forward and away from the proper axis. In cases of excessive lumbosacral curve the fundus is inclined posteriorly by the abdominal muscles, making an excessive sacro-vertebral angle which interferes with flexion of the head, thus causing a presentation of the longest diameter of the head in the oblique pelvic diameter.

The use of the forceps on the after-coming head is very properly being avoided according to most recent writers. Willams (2) says: "It is never necessary to resort to the forceps under such conditions." If the head is in the superior strait, the application requires so much time that the child's life is in great danger of asphyxiation, which, according

to Williams (3) is inevitable eight minutes after the appearance of the umbilicus at the vulva. The rapidity necessary in extraction causes a great liability of injury to the soft parts of the pelvis, and the lower application of the blades upon the head frequently causes pressure upon the stylo-mastoid foramen, with resulting facial paralysis.

The Mauriceau, or Prague, manœuvre of extracting the arrested after-coming head should exclude the forceps in practically every case.

SUMMARY.

Some of the difficulties in the use of forceps, then, are solved, or made easier, by:

(1) The cephalic application in all high and medium positions.

(2) A careful effort to have traction always exerted in the axis of the birth canal.

(3) The axis traction instrument in high and medium applications.

(4) Correction of the dorso-convex position for the Walcher if the vertex is about to engage at the pelvic brim, or for the extended lithotomy if ready to emerge from the pelvic outlet.

(5) Rotation with double application of the forceps in occiput posterior positions.

(6) The approximate correction of errors in the uterine and pelvic axis.

(7) Elimination of the forceps in extraction of the after-coming head.

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THE MANAGEMENT OF SMALLPOX IN HOUGHTON COUNTY WITH REPORT OF 288 CASES.*

W. H. MATCHETTE.

Hancock.

During the past few years no one subject has interested the profession and lay-

men more than that of variola, and as a fitting tribute to crown the vast store of our present knowledge, comes the announcement by Dr. Councilman of the discovery of the long searched for protozoa. In China Porter Smith tells us that smallpox dates from the reign of the first emperor of the Han dynasty A. D. 25-28 and is said to have been imported from some part of Central Asia by Chinese troops returning from a campaign.

In A. D. 622 we again read of the diffusion of smallpox eastward and westward by the Saracen armies, led forth to conquest by Mahomet, and so to-day the United States is still combatting the spread of this disease, which after many years of comparative absence has been again ignited by the returning troops from Cuba; but thanks to the immortal Jenner, if Lord Macauley were alive to-day, he would not describe this epidemic as he described the ravages of smallpox in writing of the death of Queen Mary in 1694.

"The havoc of the plague has been far more rapid, but the plague had visited our shores only once or twice within living memory, and the smallpox was always present, filling the churchyards with corpses, tormenting with constant fears all whom it had not yet stricken, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to the lover." In fact the type of the disease is so altered that in many places it has been termed Cuban itch, chickenpox, waterpox and what not only the State board of health can say.

Smallpox was first discovered in

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Houghton County in July, 1900, the case being that of a saw-mill employee, taken sick at Dollar Bay. Steps were immediately taken for his isolation, but shortly afterward other cases were discovered in Hancock and Houghton and in lumber and railroad camps back of Houghton. A little later cases developed in Calumet. Several cases succeeded these outbreaks during the following two months, and enormous bills were presented to the county board of supervisors in October for payment. These bills had been authorized and allowed by the various village and township health boards and represented expenses for maintenance of separate pest houses as well as direct and in many cases consequential damages for quarantined inmates of infected houses. The board of supervisors on investigation found they had no alternative under the present law but to reimburse the various villages and townships for the money expended. However, realizing that at the rate bills were coming in and the general prevalence of the epidemic throughout the county, something would have to be done, as the health boards were acting individually and not aware of their aggregate expenses.

Accordingly at the November meeting of the board, a county physician was appointed to look after all cases of smallpox occurring in the county, and a county detention hospital was ordered built at once, centrally located and at a cost of about \$2,000. Later however the hospital was found to be inadequate and additions, steam-heat and water-works were added at a total cost of about \$10,000. So that to-day Houghton County has one of the best detention hospitals in the state.

A little later trouble arose over the legality of this act, some of the local health

boards maintaining it to be unconstitutional. Accordingly the following bill was framed and passed by the legislature which was then in session:

Local Act of Michigan, Session of 1901
No. 460. An act to authorize the County of Houghton to construct or purchase, own or maintain one or more hospitals, pest houses or quarantine buildings and to provide the means for constructing or purchasing, maintaining and managing the same, and to legalize the action of the Board of Supervisors of the County of Houghton in constructing a building for the use of a hospital and pest house.

The people of the State of Michigan enact:

That the County of Houghton is hereby authorized and empowered to purchase the necessary lands and erect thereon, or otherwise provide one or more hospitals, pest houses or quarantine buildings within the limits of the said County of Houghton and to provide for the appointment of the necessary officers, attendants or employees for the care and management thereof, and for the care and treatment therein of such sick and diseased persons as the Board of Supervisors of the County of Houghton shall deem proper and by the direction of said Board of Supervisors or the county physician, persons having any malignant, infectious disease, may be removed to such hospital, pest house or quarantine buildings, and there detained and treated, when the public safety may so require, and the said Board of Supervisors may provide such restraints and punishments as may be necessary to prevent any such person from departing from such hospital, pest

house or quarantine grounds until duly discharged.

Sec. 2. The Board of Supervisors of Houghton County shall also have and exercise within and for the County, all the powers and authority conferred upon the Board of Health by chapter 46 of the compiled laws of 1891 and all amendments thereto, being chapter 39 of Howell's annotated statutes of the State of Michigan, so far as the same are applicable and consistent with this act, and they may enact such rules and regulations as may be proper for regulating the proceedings and mode of exercising such powers and authority.

Sec. 3. The action of the Board of Supervisors of Houghton County taken and had at the October, November and December, 1900, sessions of said board relative to the construction and maintenance of a building for the use of a hospital and pest house, and the same is hereby declared to be in all things legal and valid forever after the passage of this act. This act is ordered to take immediate effect.

Approved May 31st, 1901.

The method then employed was for all health officers who had cases of smallpox reported to them to immediately report to the county physician who would take charge. The cases were almost all removed to the hospital, the exposed inmates vaccinated and the premises quarantined for a period of sixteen days, and watchmen installed day and night. Houghton County industries being mining and lumbering, it will readily be seen that they attract a large number of foreign laborers, this class being made up mainly of Finns, Poles, Swedes, Canadian French and Italians, making up in all a large percentage of the population, more

being in Calumet, where we have had the largest number of cases, and fewer in Houghton, where it has been the least prevalent.

These foreigners increased the difficulties of the health authorities in every way possible in stamping out the contagion by hiding their cases, not reporting, and their frequent intermingling. In a Finnish locality of Calumet a house to house investigation resulted in finding a large number of cases, some hiding in cellars, others in attics and closets. The whole district was quarantined and all cases moved to the hospital. The condition would have been more disastrous were it not for the fact that all the adult Finns had been vaccinated upon entering the country. The Canadian French gave us the same trouble by not reporting their cases, and not being afraid of the disease, they would rather shield a case than have it dragged off to the pest house as they expressed it, and be shut up themselves.

After the outbreak in the Finnish settlement had abated, we decided to do away with the subsequent quarantining of houses, in those cases when only families were affected. The patient to be immediately removed, the exposed members vaccinated, the house disinfected and the remaining members of the family allowed to go about their duties, an inspector to call each day for sixteen days to watch for any developments. This plan we found to work very satisfactorily, the people having got over the dread of the hospital, hesitated to report cases only on account of the quarantine.

However, upon learning that as soon as the patient was removed they would be given their freedom, they no longer delayed in reporting to the authorities, thereby assisting them in early removal of

the patient and disinfection of premises. Exposed persons vaccinated soon after exposure and given fresh air and sunlight were rarely subsequently stricken with the disease. Another item not to be overlooked is the saving of expense as a consequence of doing away with watchmen and supplies.

In the discussion of a paper, Jay F. Schamberg gave the experience of Philadelphia in the matter of quarantine. At the beginning of the present epidemic of smallpox, routine quarantine of from 15 to 18 days was imposed at each house where the disease was discovered. This was not found effective and was seen to have several disadvantages: (1) Exposed persons in these houses would escape before the quarantine was placed, and would thus spread the disease; (2) there was lessened incentive for patients to go to hospitals; (3) the method was very expensive. Later a quarantine of two or three days, with disinfection, vaccination and removal of the patient to the hospital was adopted with much better results.

The disease up to the present time has been of the universal type, comparing similarly to that in Chicago, Toronto and Montreal, the mortality being less than in the east. The following information concerning the number of cases and death rate will be interesting:

	In Chicago	1900	1901	1902	1903	To April 1
Cases	54	276	339	161	
Deaths	2	4	5	24	
Cleveland	993	1232	1230		
Deaths	16	20	224		
Philadelphia	...	26	1159	1342		
Deaths	0	156	231		
New York City	156	1964	1516	26		
Deaths	12	410	310	2	

In New York the death rate for the three years has been slightly over 20%; in Philadelphia, 15.3%; in Cleveland,

7.5%; in Chicago, 1.6%. During the first three months of 1903, however, the death rate increased to nearly 15%. In Houghton County for the three years there have been 280 cases with four deaths, or 1.4%; 259 of these have been treated at the hospital with one death. In the State of Michigan Dr. Baker informs me there were, in 1900, 694 cases, with nine deaths or 1.3% mortality; in 1901, 5,000 cases, with 27 deaths, or a mortality of a little over 0.5%. The compilation for 1902 has not been completed, but 41 deaths were reported. The marine hospital service reports give the following cases and deaths as reported to that office: In 1900, No. of cases, 20,362, with 819 deaths, or mortality 4%; in 1901, No. of cases, 48,206, with 1,127 deaths, or mortality 2.3%; in 1902, No. of cases, 54,014, with 2,083 deaths, or mortality 3.8%.

The mildness of the disease in this section of the country has added to the difficulty of stamping out the contagion. In our own county numerous cases have been discovered merely by accident, the patient not being indisposed enough by the prodromal symptoms to summon medical aid and the number of lesions being so few as to excite no suspicion.

Nevertheless we have at hand a powerful weapon in vaccination which, universally wielded, will reward us with excellent results. Still, even here we are hampered by the antivaccinationist, who, could he have a similar experience to Dr. Pfeiffer of Boston, would soon result in a good riddance of these moral lepers. I would refer here to the excellent pamphlet compiled by the Chicago department of health entitled "Vaccination Creed." The rule given in the Creed is "Repeat Vaccination until the susceptibility to vaccine

is exhausted." Not one of the 727 cases of smallpox discovered in Chicago within the last four years was found vaccinated as defined in this rule. In my own experience of 280 cases, 240 had no scar of successful vaccination, 27 faint scars of several years previous, seven fair scars all dating back 20 to 40 years, and six vaccinia concomitant with smallpox, the vaccination taking place too late for protection. Not one of the cases vaccinated according to the Creed, while on the other hand of a number of nurses and attendants vaccinated as described above not one has developed smallpox.

In Houghton County a large percentage of cases has been foreigners. The Scandinavians and Canadian French being more susceptible and together with other foreigners making up 59 per cent. of the 280 cases, 26 per cent. being Scandinavians, 23 per cent. Canadian French, 41 per cent. Americans, 10 per cent. miscellaneous foreigners. The disease also assumes a more virulent type among the Finns and French. Males and females are about equally susceptible. However, in my series 60 per cent. were males, but this is accounted for by the intermingling of men, rendering themselves more liable to exposure. Smallpox is a disease of young adult life, striking the strongest and often passing over the weak and sickly—33 $\frac{1}{3}$ per cent. of my cases were between the ages 21 and 30 and this decade has usually the greatest number of severe cases, 29 per cent. under 10. This large percentage is due more to the fact that the majority of children are unvaccinated, but with the exception of infants the disease takes on usually a very mild form, 27 per cent. between the ages of 11 and 20 years, 8 per cent. between 31 and 40, while between 40 and 50 only 4 cases, and

one patient each at the age of 60 and 70 years respectively.

Smallpox is a typical infectious disease and for convenience of description is divided into 5 stages: (1) Incubation; (2) invasion; (3) eruption; (4) secondary fever; (5) dessication and desquamation. The period of incubation is usually given as 12 days, meaning from the time of exposure to the beginning of earliest symptoms. This however is often very vague and in smallpox the first appearance of the eruption I think would be more satisfactory. Among the cases, I wish to cite a few who were known to have had only short and well defined exposures. Miss E., Archie, and Miss T., were exposed November 2nd, 4 P. M., for about one hour in a neighboring town to a boy shortly afterwards found to be suffering with smallpox at the fourth day of his eruption. All three had never been vaccinated and took sick on November 14th and broke out on the morning of November 16th, or 14 days from exposure to appearance of eruption.

Mrs. N. Never vaccinated, exposed across the city during a short visit to a boy afterwards found to be at 8th day of eruption. She states she scratched some of the lesions for him and may possibly have inoculated herself. At any rate the exposure being on the afternoon of November 8th, her eruption first made its appearance on Nov. 18th in the evening, her temperature that morning reaching 104.5°. Next morning she was well covered and her temperature registered 101°. She first took sick on Nov. 15th, or seven days until beginning of prodromal symptoms, and ten days until appearance of rash.

Mr. D. and Miss M. Never vaccinated. Exposed for a few minutes on the evening

of Aug. 5, while calling on girl afterwards found to have been sick at 8th day of eruption. Both cases broke out on the morning of Aug. 21st, or 15 days from exposure to eruption. In studying these exposures it is a curious fact that in the first and third cases when more than one was exposed the disease made a simultaneous appearance in each.

In the second case the shortness of the period might be accounted for by the inoculation. However, the customary two weeks is most always found as the time elapsing from exposure to the appearance of the rash. I am convinced that most cases acquire the disease from inhalations and the danger of communicating the disease is not very great until about the second or third day of eruption when it becomes highly communicable. I draw this conclusion from observation of cases exposed from the beginning and later counting back 14 days, the average time elapsing for incubation, brings it to 2d or 3d day of the eruption in the exposing case. The fact is again noticeable that cases removed early after appearance of rash seldom convey the disease to others.

Another illustration of these facts was seen in that of a case taken sick in a boarding house in one part of the county and after recovering from the initial fever and after the appearance of the eruption left for Calumet where he started on a spree. That night he and his companion spent at a brothel, and next morning started on a round of the saloons when he was apprehended. Fourteen days later his companion and three bartenders broke out with the eruption. No cases occurred in the boarding house where he was first taken sick and none in the house of ill-fame; here however, the two inmates had successful vaccination scars. The four

subsequently stricken broke out at the same time or just 14 days later. This also shows the highly contagious character of the disease.

The prodromal symptoms, while fairly constant, are not diagnostic of smallpox, and in many of the cases were diagnosed as typhoid fever, grip and appendicitis; so striking was the latter similarity that one case was operated on twenty-four hours after the onset, a temperature of 103.5° continuing for 36 hours longer when it dropped to normal, with the appearance of the rash. The prodromal symptoms set in suddenly with chills and headache and pains in back and legs. A tolerably constant symptom is a pain in the pit of the stomach with or without vomiting, the temperature may rise rapidly to 105° or 106° in serious cases, but usually 103° to 104° is the maximum. On the morning of the third or fourth day the temperature drops in mild cases to normal, in confluent seldom touching normal but remaining at 100° or 101° .

Simultaneously the rash makes its appearance on the exposed or more vascular parts of the body, passing in a few hours from macules to papules presenting their characteristic shotty feeling in which two or three days exudation of serum takes place and the papule is transformed into a vesicle and by the fourth or fifth day is as large as a split pea, hemispherical in form, covered by thick covering of skin containing within an opalescent center. About the sixth or seventh day the contents are purulent and umbilication which begins early in the vesicular stage is quite removed by filling of its chamber with purulent contents.

This is the usual course seen and described in typical cases of smallpox, but in this epidemic I have seen cases ranging

from variola sine eruption, which I am positive exists, and cases when only one lesion on entire body has been found, to confluent fatal cases. Many of the mild discreet cases in this epidemic are greatly modified. In some the lesions dry down from the early vesicular stage with later a round dry scab surmounting the lesion. In fact any degree between smallpox without eruption to confluent type has been seen in this epidemic.

In the diagnosis too much stress is laid, by one not accustomed to seeing smallpox, on individual points, as "shotty feeling and umbilication" instead of the general history of the case. In all degrees of smallpox a clear concise history can be had which is typical of the disease. Two or three days of preceding malaise, which even the patient often calls the grip, followed by a cessation of all these symptoms and the appearance of the pimples which excited suspicion. In mild cases there will be no secondary fever and the patient declares himself completely recovered. In differentiating from other disorders it is always well to examine the vaccination scar, as this is also an admirable index as to the nature of the trouble in question.

Chickenpox and smallpox can be very easily differentiated even in adults. I have seen three cases of chickenpox in adults and they offer the same characteristics as in childhood. The thin skin irregular in outline covering the lesions in chickenpox produces an entirely different picture from the thick covering of the perfectly round smallpox lesion. Another point here to remember is that in smallpox the lesions are more numerous on exposed than unexposed portions of the body, and again the history of the early appearance of the rash in chickenpox with no drop in the febrile condition.

No other disease offers enough similarity to smallpox to cause any indecisiveness. The treatment of smallpox has advanced many theories for the prevention of cicatrization. In my opinion it would be extremely hard for any one to draw any deduction as to the probable effect of any line of treatment in this epidemic. In cases confluent in degree desquamation takes place without scar formation, while on the other hand the lesions of a very discreet case may leave deep cicatrices. The majority of cases in this epidemic recover without any permanent marks. It has been my custom in almost all of the cases to use a strong bichloride wash with fair results.

Finsen's red light treatment I have had no experience with, but as only a few cases are extremely severe and many confluent ones recover without any permanent marks, it would be difficult to attribute success to any one measure.

ELECTRO-PHYSICS AND THEIR APPLICATION TO THE SCIENTIFIC TREATMENT OF DISEASE.*

C. L. BARBER,
Lansing.

Electro-Physics is to-day the foremost topic of discussion among scientific progressive medical men.

The achievements in electro-therapeutics the past five years surpasses in wonder and brilliancy those of any like period in the history of medicine.

The recent discoveries in the laboratories of physiologists, chemists and biol-

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ogists will necessitate, I predict, the re-writing of a portion of our physiologies, materia-medica and therapeutics.

The close of this decade will see more wonderful things done with that subtle force, electricity.

The study of electro-physics discloses the most scientific reason for the work done in electro-therapeutics.

Seven years only has the mind to go back to that secluded University of Wurtzburg which heralded the discovery of Prof. Roentgen's magic ray that can lay bare the interior of our bodies and render solid substances as transparent as glass. The man of science marveled not less than the man on the street.

Over a hundred years ago Galvani demonstrated to the world that the muscles of a dead frog's leg could be made to contract by stimulating the nerve with an electric current, and physiologists have worked ever since to learn why a muscle contracts or beats rhythmically. Life, that property God has given the individual cells of our mechanism, is the force. Now, what is life?

Physiologists have found that by changing the chemical relation of the solution in which a piece of muscle is placed, that muscle or a heart may be made to beat rhythmically as well as accelerated or retarded and thus enable one to play with life, so to speak.

In chemistry we are taught that there are seven valences or combining powers or elements—monad, diad, etc.,—and each element combines with some other element to form a molecule according to its valence.

It is now known that that combining power of the atoms of different elements to form compounds is an electrical force, or pull, if you please.

In H_2O , oxygen has two pulls when hydrogen has only one—and water is formed by one atom of oxygen attracting two atoms of hydrogen.

Physiologists agree that there is no complex structure in the germ-cells from which the lower order of animals spring, but their varying forms are simply a reaction between a specific kind of protoplasm and the physical forces of light, heat and chemism which mold it this way or that.

In their laboratories the new science, "experimental morphology," has been born; but the secrets of life lay deeper. If the upper part of a jelly fish be cut off the rhythmical contractions cease. Then, if the beheaded animal is placed in a solution of common salt they begin again.

A little potassium or calcium added and the contractions stop again.

An excised heart can be kept beating for hours, stopped, started, quickened or slowed simply by changing the chemical character of the solution in which it is placed. The same way the muscle of a frog's leg can be made to beat in rhythm.

It is now clear that the beat of the heart is not due to the mysterious action of some more mysterious nerve, but that it is due to the presence or absence of a quantity of certain salts.

A new chemistry steps in to show how this is done.

A lump of salt dissolved in a dish of water makes that water a conductor of electricity. An electric current can be started by dipping the two ends of a copper wire therein.

A lump of sugar has no such effect. This was the mysterious problem in chemical philosophy until the distinguished Swedish physicist, Arrhenius, demonstrated that molecules of salt and acids

are forced apart, when dissolved, with tremendous force.

The effect in dissolving the salts is a terrific electrical charge on the individual atoms.

In separating these atoms one set is charged positively and one negatively. In sodium chloride, the metal atoms sodium take the positive charge and the chlorine atoms the negative.

Long before their nature was understood Faraday named the electrically charged atoms, "Ions."

This simple conception has revolutionized chemistry. Arrhanus says, "It is the ions that act. It is the ions that cause the heart to beat or a muscle to contract. The positive charge stops them, the negative sets them going." This is the most important discovery, says Prof. Loeb, of his life. The ultimate cause of muscular action, if not all life processes, is electricity. The burning question of biology is the "beginning of life."

Dr. Loeb says, "While studying the effect of salts upon life phenomena I was led to the fact that the peculiar actions of protoplasm are influenced to a great extent by the ions contained in the solution surrounding the cells." By changing the relative proportions of the ions we change the physiological properties of the protoplasm. We are thus able to impart to the tissue properties which it does not ordinarily possess.

Pursuing this idea, Loeb was able to develop unfecundated eggs in a solution of chloride of magnesium.

A study of these novel reactions. The heart that may be stopped or started with a pinch of this salt or that, the muscles that may be made to beat like a heart; the unfertilized egg that may be vivified

by chemical means, reveals the common chain that binds them all. Starting with the hypothesis that electricity is a persistent force, which is a part of the atomic structure of matter, and is the vital force so far as the seventy odd elements now known are concerned, constant and without variance, each element endowed at all times with a constant electrical pull, its presence is made known by its attracting and repelling phenomena; each element bearing a definite relation one with the other, in proportion with their electrical pull or combining power.

This constant electrical pull, which is a vital part of the elements associated with a definite rate of oscillation, gives to us the various forms of matter known as compounds.

Berzelius in his electro-chemical series classifies fifty-six elements in relation to their electrical pull. The two extremes will separate any intervening elements when they are arranged in a compound. Every one knows that the positive end of a magnet will repel the positive end of a compass needle, but attract its negative end. Also, that the reverse is true. The same thing takes place in a molecule of sulphuric acid (H_2SO_4).

The H is the electro-positive, the S and O electro-negative. The attraction or electrical pull between hydrogen, sulphur and oxygen. Why it requires two parts of hydrogen, one of sulphur and four of oxygen to form a molecule of sulphuric acid is due to its harmonic condition plus the electrical pull. We do not speak of chemical compounds, but say elements are associated to form compounds. H, S, and O are associated in the proportion of 2, 1 and 4 to form a molecule of sulphuric acid. Now introduce an atom of zinc and see what takes place. There is at once

a dissociation of the atoms of the molecule of sulphuric acid—like the positive point of the magnet repelling the positive end of the compass needle, the zinc repels the hydrogen and attracts the sulphur and oxygen, the electro-negative's radical, and zinc sulphate is formed. This change as well as all others produced by the aid of electrical energy in solution is called electrolytic and the process electrolysis. When a direct current of electricity is applied to the body electrolysis ensues, producing a continual dissociation of the elements of the body along the line of force during its application.

Ions are the product of electrolysis. The stronger the current the more ions produced. The ions evolved at the positive pole or anode are termed anions, those at the negative pole, or cathode, cations. A current of electricity renders the parts through which the lines of force pass aseptic, by virtue of the ozone developed. Ozone is the most powerful germicide known and the integrity of the whole body is due to its presence in the system. Ozone is neutral in reaction and enough of it in the system will destroy all pathogenic germs.

The accumulation of ions at the cathode or cations have an alkaline reaction while the anions have an acid reaction. The two poles are often designated the alkali and acid poles, and if the current is sufficiently strong to produce vessication the effect of the local cautery at the negative pole is similar to that of an alkali (caustic potash) and the one at the anode similar to that of an acid (hydrochloric acid). In the polar region we have two forms of reaction, which are purely local, having a varied effect on pathogenic microbes; some microbes that thrive in acid medium will be destroyed in alkaline medium and

vice versa. Any form of a microbe that can be destroyed by an acid can be destroyed by the positive pole of a galvanic battery, and those that require an alkali will succumb to the negative pole. At the anode the circulation is diminished, at the cathode it is increased. At the anode the tissues are dehydrated, at the cathode they are hydrated. At both poles albumen is coagulated, at the cathode slightly, at the anode to an extreme degree.

The anode is an acid cautery, the cathode an alkaline one. The acids accumulating around the anode will destroy a large number of pathogenic germs, the cathode will destroy the rest of them.

An infected wound may be successfully treated by the use of a direct current. What pole should be used as the active one should be determined by the nature of the infection.

Erysipelas can be successfully treated by using the anode over the affected part. It will prevent the disease spreading and when properly applied will destroy the streptococcus with its acid cautery and at the same time dehydrating the tissues.

Boils, carbuncles and abscesses can be aborted with the anode or ripened with the cathode. Inflammatory exudate in the lungs, liver and pelvic cellular tissues can be disorganized and eliminated by electricity.

Congestion or anæmia of the various organs of the body are successfully treated if the laws of physiology and electro-physics are understood.

Nevi, warts, moles and superfluous hairs are easily removed.

Many forms of paralysis, hysteria, neurasthenia, all of the functional and many of the organic diseases of the nervous system can be and are successfully treated with some form of electricity.

Static electricity is governed by the same physiological action and is capable of a greater diversity of application than either the galvanic or faradic current.

Static electricity has wonderful potentiality, but small volume.

The physiological effects of static electricity are chiefly modifications of the ordinary vital processes without electrolytic alterations.

It may increase, diminish or otherwise modify all the functional processes. It effects secretion, excretion, absorption, elimination, circulation, respiration, sleep, reflex action and nutrition.

Owing to its enormous electro-motor force and power of condensation it possesses great diffusiveness which enables it to affect the entire system.

It tends to regulate the heart action and equalizes circulation. It is a wonderful menstrual regulator. It increases metabolism, allays nervous irritability, produces sleep and increases nutrition, which is a vast power for good in many morbid states, as gout, rheumatism, neurasthenia, neuralgia, anæmia and various symptomatic derangements.

The static spark sets up a wonderful molecular change and acts as a stimulating massage, disperses exudative material and strengthens the nerves. It will disperse pain, local or general, or reflex. It excites the cells of the human system in such a way that their inherent energy is liberated and functional action excited. The list of diseases in which static electricity can be beneficially employed is a long one. Its great field is in nervous, psychic and functional conditions. Nothing equals the static breeze to dispel apprehensive forebodings and psychic phenomena found in every chronic case whether it is real or imaginary. It is

invaluable in muscular rheumatism, chronic synovites, chorea and the curable forms of paralysis as well as headache and spinal irritation.

The X-ray has been used the past five years with success that borders on the phenomenal in cancer, tuberculosis, skin and joint affections, neuritis and visceral diseases.

The X-ray is an electrical force of wonderful potentiality, causing tremendous vibration of the molecular structure sufficient to kill many forms of pathogenic microbes, yet stimulating the function of normal cell tissue.

In the diagnosis of many diseases, fractures, dislocations, gall stones, renal and vesical calculi, the locating of foreign bodies, as pins, needles, bullets, pieces of steel in the eye, diseases of the bones, nerves or viscera, where structural changes have taken place, its aid is incalculable.

A STUDY IN CASES ILLUSTRATING POINTS OF DIAGNOSIS IN OBSCURE APPENDICEAL DISEASE AND OTHERS SIMULATING AP-PENDICITIS.*

H. W. LONGYEAR,
Detroit.

The knowledge of the subject of acute inflammation of the vermiform appendix has been so thoroughly disseminated among the profession during the past decade, that now the veriest tyro in the practice of medicine will hardly fail to make a diagnosis of a simple case; in fact, he is now so eager to let no guilty appendix

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escape that his diagnostic judgment is sometimes warped thereby and other conditions mistaken for appendicitis.

The cases which often puzzle the specialist, as well as the general practitioner, are those of a more or less obscure nature necessitating a differential diagnosis, which frequently requires much clinical experience and the application of laboratory tests to make satisfactorily. It is the purpose of this paper to discuss briefly some of these conditions which have come under the writer's notice, besides citing a few typical cases by way of illustration.

The cases to be considered will be of two varieties, viz: (1) those cases in which there is present real appendiceal disease, though of a subacute or chronic character and attended by symptoms more or less obscure; and (2) those cases in which there are present symptoms closely simulating those of acute appendicitis, which are caused by other pathological conditions and in which disease of the appendix is not present.

The symptoms attending many cases of obscure appendiceal disease are frequently of such a mild character, being often free from rise of temperature or other symptoms denoting an inflammation of the organ, or septic absorption from it, that the cases are usually treated for a long time for other affections, such as intestinal indigestion, neuralgia or rheumatism, acute indigestion, etc., before the true nature of the trouble is suspected, and even then the diagnosis is usually forced upon the physician by the fact that the attacks having become more and more severe, the appendix is at last laid hold of.

The symptoms are, principally, recurring pain and tenderness in the right side of the abdomen, the attacks being usually of a fleeting character but tending to in-

crease in severity with each recurrence. Many of these cases seem to be unattended by a rise of temperature, but careful observation will usually discover that there is a slight febrile action at some time each day during an attack. When these slight fleeting pains are of daily occurrence for a protracted period, the patient will frequently exhibit a normal, or sub-normal morning temperature, and a slight rise—one-half to one degree—in the evening. Such patients who are subject to frequent attacks usually lose flesh slightly, become somewhat anæmic, dyspeptic and nervous. In fact, they usually say they are "run down," and apply to the doctor for a tonic, and some questioning is often necessary to bring out the fact that there is any abdominal trouble in the case. Many of these patients complain only of frequent attacks of colic, more or less severe, the pain at times being localized in the right iliac region, but more frequently it cannot be localized, the whole abdomen partaking more or less of the distress. When such a case is unattended by rise of temperature, and the attacks of pain are of a very transient character, the true nature of the disease is very liable to be overlooked until the appendiceal colic, which denotes only an irritation of the appendix, and not an inflammation of the organ, has passed on into a true inflammation by reason of the resultant progressive pathological changes.

The pathology of the appendix in these cases is varied and interesting. Perhaps the simplest affection of the appendix which causes symptoms is the sharp angle, or kink, caused by an adhesion doubling the organ up and bending it sharply back upon itself, causing a mechanical difficulty in the evacuation of its contents—hence the pain of attempted expulsion when the distal end becomes distended with mucous.

or a fecal concretion, or other foreign body, becomes lodged in it. This condition is the one most liable to cause frequent attacks of slight appendiceal colic unattended by chills or appreciable rise of temperature, and in which sensitiveness to pressure is usually absent between attacks.

A simple catarrh of the appendix is probably the most frequent cause of obscure appendiceal symptoms, and when it exists without the presence of a proximal contraction of the lumen of the organ the symptoms will be mild. A slight daily rise of temperature will be noted; the characteristic pain may be slight, but the sensitiveness to pressure will usually be present in a moderate degree both during and between attacks; no indurated tumor will be discovered, but the sensitive and somewhat hardened, cord-like appendix may be palpated through an abdominal wall that is not too fat.

In cases of this variety, which often continue for years, the surrounding lymphatics are liable to become infected, enlarged and tender; the appendix may be long or very short; its canal narrow and tortuous, or wide and funnel shaped; its walls will be thickened and hard and of a cicatricial character, all muscular contractility of the organ being lost. Occasionally this form of appendicitis, when long continued, results in a complete obliteration of the canal, either wholly or in part of its length, and then we have the "appendix obliterans" that was first described by Senn. Where the obliteration occurs only at the proximal end the resultant collection of mucous or other material at the distal extremity usually gives rise to continuous symptoms of appendiceal irritation, and if the contents of this sacculated portion be not sterile, the more positive symptoms of appendicitis will de-

velop, the severity of the manifestations depending then upon the variety and toxicity of the imprisoned germs. When the distal end is closed the opposite effect is produced, the irritation decreases, and a spontaneous cure is sometimes the result.

The tendency of the majority of all these cases of mild appendiceal irritation, I believe, is toward relapse and increase of symptoms, causing the patient to be constantly in danger of an attack of acute appendicitis, so that they should be watched with great care and the appendix removed as soon as it can be determined that the symptoms are increasing either in frequency or severity. An attack of positive inflammation should not be waited for, but if such occurs the operation should be made at the earliest possible moment. The diagnosis is then positive and the danger insignificant. The following three cases illustrate these forms of appendiceal disease.

Case 1. (Sent to me by Dr. McLarty, of Manistee, Sept. 30, 1896.) Miss M. age 17, student. Menstruation regular since 13, painful, and every three weeks, for two years. When six years old had suppuration of inguinal glands of both sides. No tuberculosis in either side of family. Never had any kind of acute disease of abdominal or pelvic organs. Had been treated for intestinal indigestion for the last eight months, during which time she had steadily lost flesh. Said her complaint from the first had been of frequent attacks of colicky pain in the right side of abdomen, running down the inside of the thigh, which were apparently brought on by taking food.

Lately complained of backache, a feeling of "bearing down" across the abdomen when standing or walking and a sense of fullness and nausea, as though menstruation were coming on. At times

has pain in the left side. Micturition frequent when awake. Cold feet causes the pain as also does the act of defecation. Bowels irregular. Pulse 80; temperature 98°; urine normal.

Phys. Examination: Abdomen not sensitive to touch, excepting at McBurney's point, where there is a small area of tenderness and a small movable body can be palpated at this point. No general tenderness, and no "board like feel" to the muscles of this side of the abdomen. Vaginal examination shows cervix large, uterus small and in normal position; both Fallopian tubes sensitive but not enlarged. Left ovary of normal size prolapsed and situated behind uterus, easily replaced.

Oct. 5th. Has had several daily attacks of pain in the right side of the abdomen since last seen (5 days). Temperature 97.5°; pulse 76.

Oct. 9. Has had pain all over abdomen. Tenderness still at McBurney's point, but not increased. Provided patient with thermometer, with instructions to use it morning and night.

Oct. 13. Temperature record shows a subnormal register in the forenoon, and a temperature of 100° between 4 and 8 o'clock P. M. One day the morning temperature was 100°.

Oct. 19. Patient just ceased menstruating, period being exceedingly painful during the first 24 hours. Has had slight chills every night. Temperature still 100° at night. Other symptoms the same. Loss of body weight is continuous and becoming noticeable.

The above observations were made at the office, the patient being up and about and not incommoded in any way except during the few moments of an attack of pain. At this time an exploratory operation was advised, as it was evident that there was present serious disease inside

the abdomen—probably the appendix, but possibly the beginning of a tubercular peritonitis.

Oct. 22. Drs. E. L. Shurley and W. P. Manton saw the patient with the writer and concurred in opinion and recommendation for an abdominal section.

Oct. 24. Abdominal section at Harper Hospital. Median incision; uterus and appendages normal. The appendix was brought out with some difficulty, owing to its very short mesenteric attachment, which had become contracted in such a manner as to double the appendix sharply upon itself at its middle portion. The organ was six inches in length and contained fecal concretions in its distal end, while its proximal end was empty and the lumen very small. No pus was found and no appearance of inflammation about the appendix. It was amputated and the abdominal wound closed with buried kangaroo tendon sutures. Recovery was uneventful, and patient was discharged Nov. 14, 1896. Reports from the patient two, and six months later, both showed her to be in perfect health, having regained her flesh and had no return of pain or fever.

Case II. Mrs. S. Aged 34. Married eight years; no children. Been losing flesh for over a year with symptoms of intestinal indigestion, which had increased in intensity during the last six months before the writer saw her; her physician, Dr. C. G. Jennings, reported that she had had several very mild but distinct attacks of appendiceal pain, which were accompanied by a slight elevation of temperature and some tenderness at the McBurney point.

March 9, 1896, Dr. Jennings called the writer to see the patient, who was then well over her last attack and was up and about the house. Pulse was 86; temperature 99.2°; no pain; no "board like feel"

on the right side of abdomen, but a little tenderness at the McBurney point could be elicited; no tumor or induration to be felt.

Operation at residence March 11, 1896. Lateral incision. No adhesions, and appendix readily found and drawn out and amputated. During the amputation a peculiar "shot like" feel to the surface of the meso appendix was noted, and examination showed this to be due to the enlargement of a number of lymphatic glands which were confined to the tissues in the near vicinity of the appendix, and did not extend to other parts of the peritoneal cavity. The appendix was exceedingly short, being less than an inch in length, was funnel-shaped, its bowel-end being large and open. The walls of the organ were very thick and unyielding to pressure, its mucous lining thick and spongy and of a grayish color, and its outside peritoneal coat was dark red and congested in appearance. The organ had apparently acted as a small cess pool, and enough absorption occurred through it to poison the lymphatics in its vicinity and so influence the general system. The patient made an uninterrupted recovery, and has had no further return of any abdominal trouble since. The enlarged lymphatics apparently subsided, although some anxiety was felt, fearing that possibly they might indicate some tubercular infection.

Case III. Miss M., aged 17, student, always the picture of health and very stout. Was treated for intestinal catarrh for two years, during which time the stomach would frequently reject food without apparent cause. Complained all the time of a tenderness in the right side of the abdomen and, at times, of a dull pain in the region of the McBurney's point. Temperature usually normal.

One year ago she had a mild attack of appendicitis, which was attended by a slight rise of temperature, an increase of the dull pain and tenderness in the right side of the abdomen. The febrile action subsided on the third day, and the patient was up and feeling as well as usual the next day. Following this attack, a summer at the sea-shore, with constant treatment for the intestinal catarrh, seemed to put the patient in very good condition, the abdominal tenderness disappearing to a great extent—not entirely—and the stomach behaving very much better, so that the patient was considered well enough to be from under the writer's care, and was sent away to school. Everything went well until last April, when a fall down stairs sent her home complaining of headache, backache and a slight aberration of vision. By the advice of Dr. R. W. Gilman, who was called in consultation for the eye trouble, she was sent to St. Joseph's sanitarium, at Mount Clemens, for a course of baths. This was interrupted at the end of two days by a sudden attack of appendicitis. Dr. Berry, of Mount Clemens, called the writer up on the morning of May 2, 1903, and reported that the patient had been suffering a good deal all night and she had a temperature of 100.5°. Immediate operation was decided on, and the writer was at the bedside of the patient within two hours, and, everything having been put in readiness by Dr. Berry and the very efficient trained nurses of the sanitarium, the operation was made without delay.

No difficulty was met with, excepting that caused by the excessive amount of adipose in the abdominal wall, with the operator's desire to make as small an incision as possible. The appendix was not adherent, but showed a congested condition of blood vessels on its surface. It was five and a half inches in length, small di-

ameter throughout, and of an exceeding hardness, being quite inelastic and incompressible, feeling almost as hard and unyielding as a clay pipe-stem. Further examination showed an exceedingly small calibre, especially at the proximal end, which, with the hardness of its tissue, indicated that it had been affected with an interstitial inflammation tending toward a probable obliteration of the canal in the near future. Doubtless the proximal end had been temporarily closed by congestion a number of times, and this last attack was probably caused in this way. There was no pus in the appendix, but there no doubt would have been in twenty-four hours more, if the intestinal end had been occluded for that time. The recovery of the patient was uneventful, and she has remained well since.

The other class of cases under discussion, viz: those simulating acute appendicitis, are those in which practically all of the symptoms and local manifestations of acute appendicitis are present excepting those produced by the local peritoneal irritation always present in acute inflammation of the appendix. The hard, "board like feel" of the right side of the abdomen will not be present, and tenderness on superficial pressure will be absent, but the deep pressure manifestations will be the same.

In the cases seen by the author, the symptoms have all been produced by attacks of intestinal toxæmia with irritation of the right ureter, the latter doubtless being induced secondarily by the systemic intoxication, with the consequent enormous elimination thrown upon the kidneys. The patient will usually be suddenly seized with a sharp chill, followed by high temperature, nausea and vomiting, pain, at first generally over the abdomen, and later in the right iliac fossa, where

tenderness on deep pressure will be usually very marked. On careful observation it will be noted that this tenderness is not located alone at McBurney's point, but extends along the course of the ureter, and is not noticeable on superficial pressure.

Intestinal stasis has been the condition in the cases seen by the author, and it has occurred to him that this inactivity may be the cause of the serious nature of the attack, as it would favor the rapid absorption of the toxins being generated in the bowels. The urine will also tell a story, and should be very carefully examined. If early in the attack (say first or second day) very little sediment may be present, but the use of the centrifuge will get what there is, and in it there will usually be found red blood corpuscles with urates, uric acid crystals, and epithelium. The red blood corpuscles are especially significant of the ureteral irritation. Later in the attack (third, fourth or fifth day) the sediment will become very profuse, and can be readily examined.

As to treatment, the indications are for active elimination, both intestinal and renal, with uric acid solvents and intestinal disinfectants and some analgesic or hypnotic for the pain as indicated. The pain is at times so intense that nothing but a hypodermic of morphine will subdue it. The active symptoms usually persist for from three to five days, which usually ends the ureteral symptoms, but more or less intestinal disturbance, with some temperature, is liable to persist for a week or ten days more.

That these cases are not infrequently met with in the experience of the busy general practitioner there can be little doubt, but the condition having no definite name by which the peculiar group of symptoms may be recognized, its true nature is liable to be overlooked, hence, in lieu of a better term, the writer

would designate the pathological conditions described, as "toxic ureteritis." This appellation would call attention to the ureteral symptoms as being important, and so tend to differentiate it from the very similar pain in the appendix, and at the same time it would call attention to the toxic cause of the trouble—both important factors in indicating the necessary treatment of the condition.

The following four cases have come under the writer's notice, as consultant, during the last eight months:

Case I. Mrs. R., age 25. Seen with Dr. F. J. W. Maguire, Nov. 5, 1902. Had been under the writer's care for retroversion of uterus and movable right kidney previous to the attack.

Oct. 27, 1902, she was taken with several light chills, followed by fever, nausea and vomiting, and pain throughout the abdomen. For the first three days the temperature did not run high, but it then increased suddenly, and on the evening of the fifth day reached 105° . Pain in the right side began at this time, and, with the tenderness on pressure, extended downward, so that the attending physician was in doubt as to whether the appendix or the right ovary was the seat of the trouble. On the night of Nov. 4, 1902, the pain became very much worse and seemed to be centered so exactly at McBurney's point that Dr. Maguire thought it must be in the appendix, and called up the writer early on the next morning, and so stated.

On my arriving, later in the morning, the exacerbation of symptoms had passed, the temperature being only 100° and the pain considerably less. The whole abdomen was sensitive, somewhat tympanitic, but there was no "board-like feel" on the right side, and the sensitiveness was only on deep pressure and followed closely the course of the right ureter. No swelling

could be felt in the region of the appendix, and vaginal examination was negative, the uterus and ovaries being unaffected.

The doctor reported the bowels had been very torpid, responding only slightly to mercurials and cathartics. A specimen of the urine was obtained and immediately examined. It was turbid, high colored, acid, showed no albumen or sugar, and the sediment consisted of uric acid and urates, a good deal of epithelium, most of which was in masses, and many red blood corpuscles. A diagnosis of intestinal toxæmia with right ureteritis was made, and the patient treated accordingly with saline colon flushing, calomel and salines and lithia by stomach, and hot applications over the seat of pain. The pain and temperature gradually subsided, but it was a week more before she felt entirely free from the trouble, and two weeks more before she was strong enough to leave her room.

Case II. Mrs. C., age 52. Seen with Dr. T. J. Henry, Nov. 19, 1902. Had been ill three days. Attack began with severe pain in right iliac fossa, and general but less pain throughout the abdomen, slight chilly feelings, and a rise of temperature of from one to two degrees with nausea and vomiting. The bowels had failed to respond to the administration of active cathartics, so that a volvulus or intussusception was feared.

The patient was very stout, so that an exact physical examination could not be satisfactorily made, but as she could move herself without apparent increase of pain, the hard, "board-like feel" on the right side of abdomen was absent, and the abdomen, though tympanitic, was not tender to superficial pressure, disease of the appendix was excluded. While deep pressure at McBurney's point caused

pain, the same manifestation was observed on pressing deeply into the right loin, and for several inches below and inside of the McBurney point—in other words, along the course of the ureter.

Examination of the pelvic organs was negative. The urine, which was scanty, and slightly turbid, was examined and found to be of high specific gravity, acid, slight trace of albumen, no sugar. The deposit proved to consist of a few red blood corpuscles and pus cells, uric acid crystals and epithelium from kidney and bladder. The treatment consisted of the following:

Flushing of colon every six hours with normal salt solution through the long tube; salol and phenacetin, 5 grains, each every two hours if in pain; effervescing 5-grain lithia tablet in a glass of water every four hours; morphia hypodermically only when absolutely necessary to relieve pain, and hot applications. The following day the patient was very little, if any, better, and another physician saw her in consultation with Dr. Henry, and pronounced the disease appendicitis, and advised operation. Dr. Henry, however, had the courage of his convictions and continued treatment as before, with the result of a decided improvement on the fifth day, which continued gradually until the tenth day, when all symptoms had disappeared and the patient was discharged.

Case III. Miss B., age 17. Seen with Dr. F. L. Newman, May 9, 1902, on the third day of a second attack of a similar nature. This case is unlike the others and not typical of its kind, as there was no rise of temperature and no apparent intestinal toxæmia, but it is reported because of its diagnostic importance, in that the pain and tenderness in the ureter so closely simulated the symptoms and signs of appendiceal irritation that careful differen-

tial tests were necessary to decide that the ureter and not the appendix was at fault.

The patient was a strong, well nourished young woman who worked in a factory. In the first attack, several weeks before, she was confined to the bed for a week, the pain and tenderness beginning suddenly. The pain in both attacks was attended by some nausea, but no vomiting, and at times was severe enough to demand anodynes. The patient located the pain and tenderness exactly at the McBurney point, but careful deep pressure tests showed that the tenderness passed from there downward, so that with the hypersensitive condition so often found in young girls, it was impossible to determine whether the extension of the painful area was along the course of the ureter or in the region of the uterus and right tube and ovary, without the more thorough examination allowed by the use of an anesthetic, so chloroform was administered and an examination of the pelvic organs made, which were found in a healthy condition. The location of the pain was then decided to be probably in the ureter, but a positive decision was not made till a specimen of the urine could be examined. This was obtained immediately, and found to show the usual indications of irritation of the urinary tract, being a small amount of sediment composed of urates, some oxalates, red blood cells and epithelium. Treatment directed to the bowels and kidneys soon relieved the patient, and she was up and about on the sixth day.

Case IV. Mrs. M., age 41. Seen with Dr. H. E. McLennon, of Bay Mills, Mich., on Feb. 27, 1903, in response to a telegram from the husband of the patient saying a consultation had been had, diagnosing appendicitis. As the symptoms detailed in the telegram were of high temperature (105°), rapid pulse, great abdom-

inal pain and vomiting, the writer feared that the case would be beyond operative help before he could reach it. Such, however, was not the case, as a great diminution of all symptoms had begun on the morning of his arrival, due no doubt to Dr. McLennon's success, after much persistence, in unloading the torpid bowels of a mass of decomposing material. The following are the notes taken at the time:

Feb. 27 (third day of illness), temperature 99°; pulse 90; colicky pains infrequent and not severe over abdomen; nausea continuous, but no vomiting.

Examination of abdomen: No tension; no "board-like feel;" tenderness in right side, along course of ureter and not more so at McBurney's point. No inflammatory mass to be felt.

Examination of urine: Specific gravity 1021, acid, slightly turbid, no albumen or sugar, much epithelium, some uric acid and a very few blood cells. The next day (28th) the urine was very free and full of sediment, which was mostly urates with some large crystals of uric acid, and no blood.

The treatment consisted of normal salt solution enemas, hot water and effervescent lithia tablets, by the mouth. The pain had all subsided by the end of the fourth day of the attack, but the patient had a slight rise of temperature for several days more, and did not get up until the twelfth day.

The notes in the cases cited in this paper have been purposely abridged as much as possible, it being the object of the writer to simply bring out those points in them which were of diagnostic value in illustrating the contention of his theme, and not to present a scientific record of cases. The writer is convinced that more patient observation and painstaking accuracy in diagnosing obscure appendiceal

disease will save many lives by early recognition of the disease, and consequent early operation; and that on the other hand, many lives may be saved and much unnecessary suffering prevented by the same kind of care exercised in accuracy of diagnosis in the prevention of unnecessary operations on cases having simulated appendicitis, in which, owing to the apparent violence of the symptoms, snap diagnoses are liable to be made and the patients hurried to quick operation.

PROLAPSE OF UTERUS, VAGINA AND BLADDER.*

J. G. LYNDS,
Ann Arbor.

When these organs lie lower in the pelvis than normal, they are said to be prolapsed. The condition may exist in any degree from an almost imperceptible sagging to a complete protrusion outside the vulva or even hang down between the thighs the length of the inverted vagina.

The uterus in its normal position lies so its long axis corresponds closely to the axis of the inlet of the pelvis, the body resting lightly on the bladder, the cervix pointing downward and backward to a point a little above the anus and should be, in the majority of cases, two and one-half to three inches above the ostium vagina. This position varies considerably, however, in different cases according to the depth of the vagina and pelvis, as well as the condition of the bowl and bladder; the body ascending and being carried back when the bladder is distended or the whole organ crowded forward and downward

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when there is over accumulation of fecal matter in the bowl, and a laceration of the perineum shortens the vaginal canal so the cervix is more easily reached, although it occupies its normal position.

The size and weight of the uterus varies considerably, in virgins, nulliparous and multiparous women, a fair average being two and three-quarter inches in length, three-quarters of an inch in thickness, one and three-quarter inches in breadth at the orifices of the Fallopian tubes, three-quarters of an inch at the junction of the vagina, and its weight is one and one-half to two ounces.

It is held in position by folds of peritoneum, which form the broad, utero-sacral and utero-vesical ligaments, the round ligaments, and the vagina and pelvic floor. When it becomes prolapsed to any great extent it drags its appendages down with it, and causes obstruction in the circulation, which, in time, results in pathological changes in all these organs. This is especially true when the fundus becomes displaced posteriorly, which so frequently happens. These secondary conditions when of long standing become more serious and demand more radical treatment than the primary displacement.

I think it best to make three divisions of prolapse, viz:

1. Simple prolapse: When there is a simple descent of the organ in the pelvis.
2. Prolapse with change in the uterine axis: When the fundus is displaced posteriorly and generally the cervix anteriorly.

3. Procidentia; partial and complete.

Complete when straining or the erect position causes the entire uterus and greater part of the bladder to lie outside the vulva, the vagina being inverted.

Partial where a portion of the uterus is outside, with partial inversion of the va-

gina, the fundus lying correspondingly low.

I wish here to differentiate between a prolapsed and an hypertrophied organ in which we find an elongated cervix protruding from the vulva with or without partial inversion of the vagina, but where the fundus is found in practically its normal position.

The uterus is usually retroverted, retroflexed or a combination of each exists, but it is important to bear in mind that complete procidentia sometimes occurs when the normal or even an abnormal antiver-sion or antiflexion is present.

Etiology: On this part of the subject I will say little more than remind you of the three general causes, viz: decreased support, increased weight and increased abdominal pressure. Considering the supports, we have, below, the perineum and vagina with its lateral attachments to the pelvic walls, and above the utero-sacral, utero-vesical, broad and round ligaments. Personally I give these ligaments more credit for supporting the uterus and intra abdominal organs than they generally receive. It is a well known fact, and one I have no doubt many of you have observed, that when these ligaments become relaxed and weakened the uterus will sag down even in young women where the supports below are perfect; and in elderly nulliparous women I have seen both incomplete and complete procidentia a number of times.

On the other hand, I have seen the uterus and its appendages remain in perfect position for years when a complete laceration of the perineum and prolapse of the lower part of the vagina was present.

Understand me, I do not mean to belittle the sustaining power of the perineum and vagina, for I fully appreciate their

great importance and am thoroughly convinced that the great majority of the cases of procidentia are due primarily to a weakened condition of these parts and could be prevented if they were properly strengthened at the proper time.

The supports below, the ligaments, and the so-called retentive power of the abdomen above are all necessary in the majority of cases to properly support these organs; and the weakening of any one of them is likely to result in a downward displacement sooner or later, unless the uterus be correspondingly light and easy of retention.

It must not be forgotten that a large, heavy uterus may of itself overcome all ordinary supports and become prolapsed. Thus we observe a very fine and equalized adjustment between the strength of the supports and the parts to be supported, which, when disturbed, is likely to result in displacement.

A study of the different ways in which a prolapse begins will demonstrate what factor of support has been at fault. The sagging begins either at the vault or outlet of the vagina; when at the vault the uterus settles down and inversion of the vagina begins above. This may occur when the pelvic floor is intact, and is due to a weakened or relaxed condition of the ligaments, an unusually heavy uterus, or the retentive power of the abdomen is replaced by an expulsive power so great as to overcome the supports and force the organs down. When the sagging begins about the vaginal outlet it is due to a weakened condition of these parts. The vaginal wall sags down through the vulva together with the bladder and rectum, giving rise to cystocele and rectocele. The inversion of the vagina begins at the vulva, the upper portions of the vagina and uterus are dragged upon, the uterine

ligaments are called upon to support this extra weight and generally are unable to do so, consequently all the organs are dragged down together. Montgomery calls the former utero-vaginal, the latter vagino-uterine prolapse. In the first the causes are in the pelvis, where the prolapse begins; in the latter at the vulva.

DIAGNOSIS.

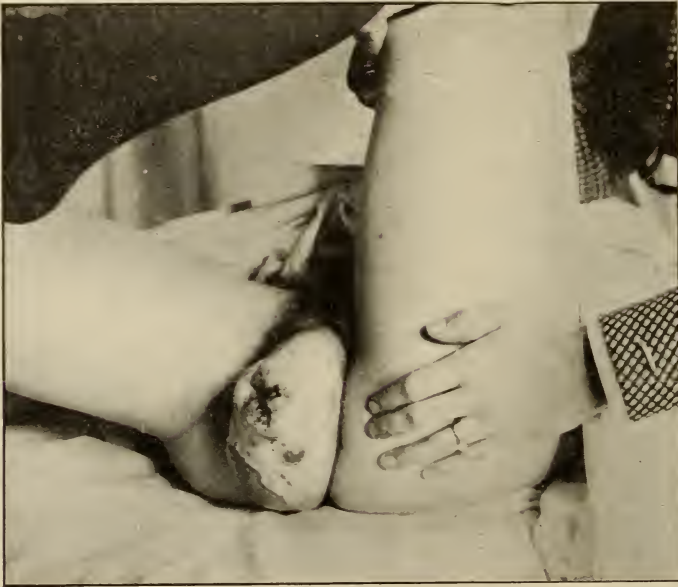
In simple prolapse the diagnosis is made by digital examination, the uterus being found nearer the vaginal outlet than normal, the cervix frequently resting on the perineum. In prolapse with change in the uterine axis the cervix generally lies close to the anterior vaginal wall and the ostium vagina, the body back against the bowl either in retroversion or retroflexion.

The diagnosis of procidentia, while apparently very simple, is frequently made when it is not present. It is necessary to differentiate from tumors of various kinds, enterocele, rectocele, cystocele, urethocele, inversion of the uterus, and more than all else, elongated or hypertrophied cervix. A very superficial examination is generally all that is necessary to differentiate these conditions, yet mistakes are frequently made. The most common one probably is the mistaking an elongated cervix. When one sees a cervix protruding from the vulva it seems quite natural to call it prolapse or procidentia, where it is quite as likely to be an hypertrophy of this portion of the uterus.

I call your attention to this specially, as it has a very important bearing on treatment and prognosis. The cervix, as you will remember, is divided anatomically into three portions, viz: the vaginal, the intermediate, and the supra vaginal. You will remember the attachment of the anterior vaginal wall is at the top of the vaginal portion and of the post vaginal wall at the top of the intermediate portion. In

procidentia the entire uterus, appendages, vaginal vault, and bladder, descend together. In elongation of the cervix the body remains in practically its normal position. If the vaginal portion alone hypertrophies the vaginal vault is not disturbed, neither is the canal shortened. If the intermediate portion elongates, the anterior vaginal wall and usually the bladder is carried down with it and this portion of the vaginal canal correspondingly shortened. If the supra vaginal portion

ments and pelvic peritoneum stretched out so they lie outside the vulva. (The photograph will demonstrate to what extent this may occur.) This differential diagnosis is of the greatest importance in giving a prognosis and deciding upon treatment; as in hypertrophy the treatment is simple, safe, sure, and involves the loss of none of the organs, while in procidentia the prognosis is uncertain, and anything that promises a cure more difficult and dangerous.



Complete procidentia and inversion of vagina with ulceration of vagina and laceration of cervix. Hysterectomy, amputation of part of vagina with fixation to broad ligaments. Colporrhaphy and Perinaeorrhaphy. Cure.

elongates, the entire vaginal vault is carried down exactly as in procidentia, but the uterine body, its attachments and appendages remain in their normal positions practically undisturbed.

Now note the difference. In complete and partial procidentia the support of the pelvic floor, be it little or great, is overcome; the lateral attachments of the vagina and bladder are destroyed to greater or less extent, according to the amount of inversion, and the uterine liga-

Tumors protruding from the vulva are sometimes mistaken for procidentia, but by locating the body and cervical canal there is no need of this error. In inversion of the uterus the fundus is likely to present at or outside the vulva, but is more likely to be mistaken for a tumor than procidentia. I once saw a well known operator amputate at the vaginal vault, thinking he was removing a fibroid, but an examination of the removed specimen showed it to be the inverted uterus

with the appendages inside. The absence of the cervical canal and of the body above the vault should lead to a correct diagnosis in this condition, however.

ENTEROCELE.

Prolapse of the omentum and intestines, one or both occasionally occur by carrying down Douglas' cul de sac until it protrudes from the vulva, or sometimes when retroversion exists, by crowding down the bladder, separating its attachment from the vagina and thus presenting externally. The sac may contain intestine omentum or ascitic fluid, but is easily differentiated from procidentia.

TREATMENT.

This is certainly one of the conditions where prevention is better than cure, especially the prevention of procidentia and, most of all, complete procidentia, in which a cure, in the sense of returning the parts to a normal condition, is practically impossible.

Prophylactic treatment consists in the careful examination of every patient after confinement and the proper repair of all injuries. This not only immediately after delivery, but again after the woman has been about on her feet for a time, lifting her baby, and doing such other work as would prove likely to affect a weakened condition of these parts. If at this time there is found a tendency to utero-vaginal prolapse, it is, as I have previously stated, due to a weakened condition of the ligaments and a properly fitted pessary will relieve them of their load and hold the uterus in position until they have time to regain their proper tone. This will require perhaps one month, perhaps six. The patient should be watched for some time after the removal of the instrument and if a tendency to prolapse or retroversion continues, it should be replaced and worn a longer time.

If a tendency to vaginal or vagino-uterine prolapse is found, it indicates a lack of support at the outlet, and surgical repair of the part is the only remedy and should be done before the upper part of the vagina and uterus are dragged down out of position. If these conditions were looked for and corrected when found, as they should be, soon after confinement, procidentia would soon become a rare condition.

TREATMENT OF SIMPLE PROLAPSE.

When the uterus sags low in the pelvis, resting as it often does on the pelvic floor, giving rise to backache, dragging, dysmemorrhoea, pressure on the perineum, etc., the indications are for some support to take the weight off the overstretched and sensitive ligaments as well as the perineum. A well fitted pessary will generally fulfil these indications but should it fail an abdominal suspension may prove necessary to give relief or effect a cure.

It may be laid down as a law that when the prolapse is utero-vaginal a pessary or some abdominal suspending operation is necessary to keep the organs up in position. (This is equally true in simple prolapse, prolapse with retroversion or prolapse with antiversion.) Parsons reports having treated this condition by injecting sulphate of quinine into the broad ligaments with satisfactory results in thirty-four out of forty cases so treated. When the prolapse is vagino-uterine in nature, a narrowing of the vagina and strengthening of the perineum is indicated. When both forms are present a combination of both measures is usually necessary to secure success.

TREATMENT OF ELONGATED CERVIX, PARTIAL AND COMPLETE PROCIDENTIA.

I called your attention to the conditions present in elongation of different portions

of the cervix for the purpose of showing you how it differed anatomically from prolapse and will now call your attention to the difference in prognosis and treatment.

When the vaginal portion of the cervix only is elongated the uterine body, vagina and bladder being in position, the treatment amounts to a simple amputation. I make an anterior and posterior flap near the vaginal vault, strip them back from as much of the cervix as seems advisable, cut off the cervix and stitch the flaps to the mucous membrane of the cervical canal in the center, and unite them at the sides. If the perineum is weakened it should be repaired as a prophylactic measure. When the intermediate portion is elongated, the anterior vaginal wall inverted, and the bladder prolapsed, the incision for the anterior flap must be made below the bladder attachment so as to avoid wounding that organ. This flap is dissected from the cervix as far back as necessary; the posterior flap is made as before near the vault and the operation completed in like manner. This carries the anterior vaginal attachment up to where it originally belonged and replaces the bladder. Owing to the fact that the vaginal wall and bladder have been severed from their attachments to the pelvis to a greater or less extent, depending upon the amount of inversion, it is sometimes necessary to do an anterior as well as a posterior colporrhaphy and perinæorrhaphy in order to get sufficient support. When the elongation is supra-vaginal both flaps must be made low down in order to avoid wounding the bladder and peritoneum, then dissected back to the lower portion of the body where the cervix is amputated, the flaps stitched to it as before, and anterior colporrhaphy, posterior colporrhaphy and perinæorrhaphy done if necessary. Fre-

quently the peritoneal cavity is opened, in Douglas' cul de sac, during the operation, but it is of no consequence and does not interfere with its completion in any way. The prognosis in these cases is good. There should be no mortality and every case should be cured.

In incomplete procidentia the conditions present must decide what measures are to be taken for their relief. If the uterus be small and not too sensitive, the pelvic floor in a condition to sustain a pessary, some patients may be made very comfortable with this instrument. In cases where operation is contraindicated, as e. g., in feeble elderly persons, or those suffering from diseases which make operations inadvisable, a perineal pad and bandage or a well fitted pessary will give great relief. When the falling of the parts is due to a large vagina and weak pelvic floor, colporrhaphy and perinæorrhaphy is indicated, possibly with amputation of cervix, Alexander's operation, or abdominal suspension on some cases.

When a large, heavy retroverted uterus with lacerated cervix and prolapsed and diseased appendages are present and the patient be nearing the menopause, I believe the best treatment is to remove the diseased organs and complete the operation in the manner I shall hereafter describe.

In complete procidentia, with inversion of the vagina and prolapse of the bladder and rectum, any of these measures seldom prove satisfactory.

I have seen cases with the cervix and vaginal vault hanging outside the vulva within one year after all this had been done, the attachment of the uterus to the abdominal wall still remaining.

All kinds of procedures have been tried from hooping the vagina with silver wire to crowding the organs inside and closing

the vulvar opening and all have proven unsatisfactory.

When carried up into position and the pelvic floor restored or even the opening closed, they immediately drop down again and, resting on the newly restored tissue, either prevent good union or soon stretch it out so they again lie outside. I can not see that any benefit is to be derived from fastening the uterine body to the vagina, peritoneum, or bladder in front, when all alike are loose from their attachments and supports, and all drop down together. It would certainly result in nothing better than dragging the bladder that much more out of position if the retroversion returned, or crowding it that much further down in front if it remained anteverted.

Experience has proven that in many cases even anterior fixation does not prevent a speedy return of the prolapse. As I mentioned a moment ago, I have seen cases even where the prolapse was incomplete, and amputation of the cervix, curetting, anterior and posterior, colporrhaphy, perinæorrhaphy, and ventral fixation, had been done, and well done, return in a short time with the cervix again outside the vulva.

I believe there is a way, however, by which even the worst cases can be given permanent relief providing the patient be in a condition to undergo the necessary operation. It would probably not be advisable in all cases, however, as e. g., in aged and feeble people who have but a short time to live at the best, and palliative measures such as a perineal bandage and pad gives a fairly comfortable existence, although I have done the operation successfully a number of times in patients over seventy.

When considering the etiology we found the causes of the procidentia to be

a weakened condition of the pelvic floor, a weakened condition of the ligaments, increased pressure from above and a heavy uterus. In procidentia it is common to have all these causes acting, and more. The uterus is not only large and heavy, but it has become a dilating wedge, and, strengthen the outlet as you will, unless this constantly acting dilator is kept off the part, the work will soon be undone and the uterus again be outside.

The intra-abdominal pressure is as a rule greatly increased in these cases, for they are generally fleshy, having thick, heavy abdominal walls containing large quantities of adipose tissue and large fatty deposits within the abdomen. Because of the fact that they are unable to exercise, this is likely to become greater as time goes on, and thus the pressure from above is increased. It is possible to do something for this in the way of diet, exercise such as the patient can take, and massage, especially of the abdomen, but the benefit is slight. It seems to me not only necessary to diminish the pressure from above, and the weight of the uterus, and increase the support at the pelvic outlet, but quite as necessary to get rid of this dilating wedge and at the same time obtain a support at or near the pelvic brim capable of supporting the abdominal contents and vaginal vault. How can this be done? It is easy enough to remove the wedge by hysterectomy. This I know is strongly objected to by some on the grounds that hysterectomy has proven a failure for the cure of this condition and once the uterus is removed the chances for benefit by anterior suspension are forever lost. These objections are valid. Hysterectomy alone has proven a failure; anterior suspension, however, has not proven more of a success. We can get rid of the wedge by hysterectomy, and can then use

the severed stumps of the broad ligaments, as the wherewith for the support near the pelvic brim, necessary to sustain the abdominal contents and hold up the vagina and bladder.

Right here I would like to say a word in justification of the removal of the uterus and appendages.

In practically all such cases as we are considering, the ovaries, uterus and tubes are in such a diseased condition as to be a decided detriment to the patient and, if in their proper positions, would in many cases require removal. It is not always conservative to attempt to save diseased parts, for in many cases it leaves the patient in a condition quite as bad as before and renders subsequent operations necessary.

After removal of the uterus and appendages in the ordinary way, per vaginum with catgut ligatures, I draw down the broad ligaments and pass another ligature as near the pelvic wall as convenient, usually two or three inches beyond the severed end, and again through the end of the ligament of the opposite side so that when drawn up they cause the ligaments to overlap two or three inches. The anterior and posterior flaps of peritoneum are then sutured together, beneath which the broad ligaments are drawn together overlapping as stated and firmly sutured. Thus we have a strong bridge across the pelvis, strong enough when well united to hold up the abdominal contents, vagina, bladder and rectum. To this bridge the anterior and posterior walls of the vagina are fastened, thus bringing the bladder and rectum up into position.

Whatever is necessary in the way of narrowing the vagina is then attended to, the pelvic floor restored and a light packing placed in the vagina. When put to

bed the patient's hips should be kept elevated for a week or ten days in order to relieve the pressure on the parts until well united. Three weeks is little enough time to keep the patient in the prone position for if allowed to assume the erect position before union of the parts is strong they will not hold. With good union we have the indications fulfilled and there will be no further prolapse.

I have now operated in this manner on over twenty cases and there has not been a single relapse. The one shown in the photograph was among the first cases I did this operation upon. She had been an invalid, in bed most of the time, for two years. The uterus was outside, lacerated and badly ulcerated; the vagina completely inverted and deeply ulcerated, the bladder also lying outside the vulva. Now she is as well and strong as ever, never has any dragging or sagging of the parts, and can do as much work as she ever could.

It is an easy matter to diagnose an elongated cervix as procidentia, and by an amputation and operation on the vagina and perineum obtain a cure. In partial procidentia the same measure may give complete or partial relief, but my experience has been that the major part of the troubles, such as the backache, dragging, pressure, and pain, are only partially if at all relieved, and the patient complains of nearly as much trouble as previously; which, considering the condition existing, is certainly nothing more than we should expect.

When complete procidentia really exists, there are comparatively few cases that will be given complete relief, excepting by radical measures similar to those I have just described, especially in very fleshy persons. Extirpation of the vagina along with the uterus has been done, but

I have found the operation described adequate in even the worst cases.

I do not wish to leave the impression that I advocate hysterectomy in all cases of prolapse or even in all cases of procidentia, but I believe there is a class of cases which nothing short of such radical measures as I have mentioned will give relief. Each patient must be more or less a law unto herself, however, and it requires a thorough and careful study of the case to decide upon the best treatment. And there are probably but few conditions that require greater judgment in deciding upon the best measures of relief, in modifying details, or operations, than the one under consideration.

FLATULENCE, METEORISM AND TYMPANITES.*

CHARLES D. AARON,
Detroit.

Flatulence is the distention of the stomach or the intestine with air or gas. When the gas accumulates acutely in the intestine we call it meteorism. A chronic accumulation of gas in the intestinal canal we call tympanites. Normally the intestines always contain a certain amount of gas. A part of this gas is atmospheric air which has been swallowed with the saliva or taken with the food. In this way a great deal of oxygen and nitrogen is introduced into the stomach and intestine. Oxygen is quickly absorbed and is, therefore, never found in the lower intestine. In consequence of diffusion quite a little carbonic acid gas passes through the blood vessels of the intestinal wall into the lumen of the intestine. The other gases

found in the intestine come from decomposition of food. From fermentation and putrefaction of food in the digestive tract we get hydrogen, ammonia, methane and sulphuretted hydrogen. There are, therefore, two causes for the presence of gas in the intestine: 1st. The taking of gas from without. 2nd. Where it is formed through decomposition of food within the intestinal canal.

It is quite natural that gases should develop from the food when one considers the course it takes through the intestine. In general we may say that as soon as the material in the intestinal canal slackens, the production of gas is augmented. As the contents progress more slowly in the large intestine it is here that the gases accumulate most. If these gases escape at the time of defecation they give no more trouble. If they are retained, this accumulation becomes the cause of various painful symptoms of which abdominal meteorism is the most evident.

The slowing of the material through the intestinal canal is frequently found in patients who lead a sedentary life. The matter accumulates, hardens and cannot escape when the effort is made. This hardened mass alters the intestinal walls by irritating the epithelium and assists in the production of a chronic enteritis. We usually find the formation of a great deal of gas in localized and diffused peritonitis. When the folds of the peritoneum become inflamed and thickened they cause adhesions which interfere with the course of the intestinal contents. Whatever may be the cause of retarded peristalsis, gas is always formed. Abnormal formation of gas in the intestine always implies the presence of large quantities of decomposing substances. The development of gases is increased when a pathological condition of the digestive tract exists.

*Read before the Section on General Medicine at the Annual Meeting of the Michigan State Medical Society at Detroit, June 12, 1903, and approved for publication by the Committee on Publication of the Society.

In certain diseases of the stomach the gastric juice is so weakened that the proteolytic power is greatly reduced. This allows the bacteria to attack the imperfectly digested food and we get fermentation and putrefaction. The secretions of the intestine are unable to inhibit this decomposition, so that the formation of gas which has started in the stomach, continues in the intestine. Normally one-third of the solid matter of feces is bacteria. These merely await the slowing of peristalsis or constipation to form the gases that give so much trouble. Anything that will interfere with the secretion of the gastric juice allows the food to decompose, and this fermentative mass may irritate the mucous membrane and produce a diseased condition which further complicates the whole situation. When there is interference with the elimination of gases through the natural channel, they always accumulate and distend the intestine. In general all conditions which lower or retard peristalsis assist in the formation of gases. When there is a small quantity of gas in the intestine, it may be absorbed and taken into the blood and thus eliminated. When there is stagnation in the intestinal canal the production of gases is greatly increased and the intestine stretches to meet this condition.

Fermentation in the digestive tract is the chemical decomposition of food which is induced by bacteria. To live it is necessary for these bacteria to acquire nourishment. They attain this by attacking the food and thus liberate gas. Fermentation and the liberation of these gases cease when the nutriment is exhausted. Sulphuretted hydrogen and marsh gas are very common bacterial products.

Pasteur observed the presence of bacteria in the intestinal canal and proved

that they were the cause of the formation of gases and he held that they were essential for the maintenance of life. We have come to see that this is an extreme view. We know that micro-organisms have their habitat in the healthy body as well as in the diseased body and that the production of gas is absolutely dependent upon their presence. The function of hydrochloric acid in the stomach is to assist digestion and destroy germs. It has been shown that hydrochloric acid does not entirely destroy all the germs that have reached the stomach. The stomach is not a perfect sterilizer. Under normal conditions free hydrochloric acid arrests fermentation up to a certain degree. Fungi can exist in the stomach in the presence of hydrochloric acid. Since the normal stomach contains fungi, notwithstanding the presence of hydrochloric acid, we would naturally find a great many more germs in chronic gastritis where the secretion of hydrochloric acid is decreased. In all degrees of catarrh of the stomach the food that has been taken into the stomach has not the natural antiseptic, free hydrochloric acid, and germs find a medium for propagation. In consequence of abnormal fermentation the formation of gas is great. In infants, the gastric glands are not fully developed, and thus fermentation not being arrested, fungi thrive. A similar condition exists in adults in all degrees of catarrh of the stomach. Fungi enter the stomach, multiply freely and establish nidi for propagation. Thus the stomach may become the direct cause of the gas which has allowed the micro-organisms to pass on into the intestine unchallenged and here their multiplication is rapid.

The accumulation of gases is a symptom of various diseases. It is found in constipation, intussusception, invagination, valvulus, hernia, strangulation, lo-

calized and diffused peritonitis. It is easy to understand how gas occurs in a stenosis of the intestine. But it is the purpose of this paper to draw your attention to cases where we have a continuous accumulation of gas due to an abnormality in the secretion of the gastric juice.

Let us study the symptoms of flatulence. On inspection we find the abdomen distended and at times so much so that all deep palpation is impossible. With percussion we obtain in all these cases an exaggerated resonance, at times a real tympanism. This rarely lies over the small intestine but is found almost always over the large intestine. Sometimes we find the tympanic resonance distinctly over the entire course of the large intestine, again it is localized in one of the iliac fossæ, proving that at times the cæcum, the ascending colon or the descending colon, is more affected than the transverse colon. The intestine may distend to three times its normal size.

Much more interesting are the symptoms of compression of the neighboring organs. The accumulation of gas may be such that the abdominal wall, already more or less distended, refuses to distend any more. In youth this degree is quickly attained and the abdomen remains more or less flat. The large intestine, greatly increased in size, compresses the surrounding organs. The diaphragm is obliged to stretch its concavity, as it is pushed up by the liver. At the back the solar plexus, the arteries, veins and the kidneys are compressed and thus produce a great deal of trouble.

The thoracic organs suffer through abdominal distention. The lungs may be extremely compressed from top to bottom. This compression may be such that the height of the lungs is diminished by

one fifth. Therefore, the lungs cannot expand during inspiration and oxygen cannot enter into many of the alveoli. The result is that the patient suffers constantly from dyspnœa. This dyspnœa may not be severe but it is disagreeable and increases considerably after meals. The seat of the trouble is in the intestine where the gas is accumulating and all medication directed toward the lungs will not relieve the patient in the least. The dyspnœa may manifest itself at times in the form of crises of asthma. But the origin of the asthmatic crises is to be found in the compression of the solar plexus, arteries and veins.

The heart does not functionate normally as it is being pressed upon from all sides. The pulse is slow and easily compressed. Patients themselves, upon ascertaining these symptoms, become uneasy and imagine they have a disease of the heart and consult a specialist for this trouble. At times the heart may beat violently and this may become extremely painful. Patients complain that they cannot sleep in a horizontal position. It is almost always between four and five o'clock in the morning that they complain the most and this coincides with the arrival of the material in the transverse colon. All these symptoms ameliorate when we prevent the formation of gases in the intestine.

Many patients suffer from headache which often becomes unbearable. Sometimes it is localized in the frontal region and again at the level of one of the hemispheres. At times there are periods of depression which coincide with a stubborn constipation and an accumulation of intestinal gas. Patients often complain of pain in the eyes and have luminous sensations. At other moments they have a buzzing in the ears. The circulation is

poor and the patients have cold hands and feet. Nothing warms them up, during the night they are obliged to sleep with hot water bags. The distention of the sigmoid flexure and of the rectum, compresses the pelvic organs. In extreme compression the bladder may be pushed from the back to the front and its capacity is very much diminished, which necessitates frequent urination.

There is an important complication which may result directly from this intra-intestinal tension and that is appendicitis. The materials in the cæcum, in cases of flatulence, tend to become pushed back toward the appendix. Under this continued pressure the orifice of the appendix enlarges. A little of this material may be forced directly into the appendix, and then the lumen closes. The microbes already numerous in the intestine, become rapidly virulent and thus produce appendicitis. The proof is, that many cases of appendicitis are preceded by a more or less abnormal fermentation generating the intestinal gas.

In the treatment of flatulence the cause must always be taken into consideration. All diseases of which flatulence is a symptom, as already mentioned, must receive special consideration and treatment. The stomach contents should always be examined before determining the proper course of treatment, as many cases have their origin in the stomach. If gastric catarrh is the cause, the treatment of the catarrh will remedy the whole trouble. A hyperchlorhydria may have to be corrected.

Bacteria which have been taken into the stomach, multiply rapidly in the duodenum and continue to do so until they are unusually prolific in the large intestine. Fermentation takes place in the stomach and upper intestine. Putrefac-

tion always takes place in the large intestine. It is estimated that an unclean mouth can contain over one billion bacteria. These are taken into the stomach with the food and here find a medium for rapid propagation. We can thus readily understand why the teeth and mouth should have special care.

The dietetic treatment of flatulency is of primary importance. Foods contain principally four of the eighty-two elements, carbon, hydrogen, oxygen and nitrogen. Carbon, hydrogen and oxygen are found in the carbohydrates and fats, while nitrogen is mostly found in the proteids. All these foods are subject to decomposition by bacteria, which causes the liberation of gases in the alimentary canal. The fermentation of the carbohydrates occurs in the stomach or the upper part of the small intestine. The proteids undergo putrefaction in the lower bowel. The gases produced are carbonic acid gas, hydrogen, sulphuretted hydrogen and methylmercaptan. The extent of the putrefactive process in the intestine can be measured by the amount of indican in the urine. We cannot measure the amount of carbohydrate fermentation. If we have fermentation we can starve out the bacteria causing this fermentation, by giving foods upon which they cannot subsist. If we have putrefaction we can starve out the bacteria and this can be done by forbidding proteids. All food which causes flatulence must be avoided. Most of the substances that incite fermentation are beer, champagne, kumyss, starches, sugar, vegetables rich in cellulose, cabbage, potatoes, beets, peas, beans, rye bread, fresh bread, cakes and fatty foods. Artificial and natural mineral waters containing carbonic acid gas are to be forbidden. With many people a milk diet will produce flatulence.

There is as yet no medication that will prevent the formation of gas in the intestine. All drugs to prevent decomposition of the intestinal contents have thus far failed. The absorption of gases by medicine is an illusion. In constipation we must see that there are regular evacuations of the bowels. The most important thing is to expel the gas through the anus. Exciting peristalsis assists in the elimination of gas and this may be done by cathartics. The kind of cathartic must depend upon each special case. The drugs usually used to aid the expulsion of gas are the carminitives, which stimulate gastric and intestinal movements. It is absolutely necessary to get normal evacuations of the bowels. For this purpose I have found nothing better than chemically pure *Oleum Petrolatum*. This mineral oil is not acted upon by the gastric or the pancreatic juices and passes through the whole alimentary canal unchanged. It lubricates the gastrointestinal mucous membrane and acts as an emollient. The feces glide along giving normal movements without irritating the intestine. *Scybalæ* do not form, and the gas passes off with the oil, which is seen in every evacuation. *Oleum Petrolatum* is colorless, odorless and tasteless and can be given in tablespoonful doses four times daily. The amount will have to be regulated by the number of evacuations.

The mechanical clearing of the intestine is of the greatest importance when not contraindicated by inflammation and ulceration. The best means for removing the gases is the free use of water per rectum. A long rubber stomach tube may be carried high up into the bowel and acts in a favorable manner. The introduction of the tube into the rectum will bring away a great deal of gas. The tube stimulates peristalsis and the elimination of gas

is rapid. Enemas, especially turpentine enemas, are frequently very effectual. Cold water is often more apt to stimulate peristalsis than warm water. When not contraindicated massage of the abdomen may be permitted. Massage and electricity will influence peristalsis and hasten the passing of gas. The faradic current may be used but it is not as good as massage. The use of a cannon ball, from two to five pounds, on the abdomen has been found very valuable in these cases. It should be rolled over the large intestine for five minutes every night and continued for some time.

HYPEREMESIS GRAVIDARUM.*

L. BREISACHER,
Detroit.

Although gastric disturbances are very common during the period of pregnancy and usually occasion much discomfort and suffering, they have always been looked upon as a necessary accompaniment of that condition, and, in consequence, have not received the attention they deserve.

One of the first symptoms of pregnancy, in a large number of cases, is nausea and vomiting. Between the ordinary morning sickness, or vomiting of pregnancy, and hyperemesis gravidarum, there are various degrees and types of vomiting which may be induced by one or more of many different reflex and pathologic conditions.

The simple vomiting of pregnancy is often, but I believe wrongly and illogically, looked upon as being a physiological condition. It is caused by irritability of

*Read before the Section on General Medicine at the annual meeting of the Michigan State Medical Society at Detroit, June 12, 1903, and approved for publication by the Committee on Publication of the Council.

the sympathetic nerve supply of the uterus which is reflected to the hypogastric plexus, causing nausea and vomiting. We have many instances in medicine which prove that nausea and vomiting may occur without the existence of any evident pathologic connection between the stomach and the source of irritation. Thus, reflex irritation of the stomach resulting in vomiting is seen in diseases of the spleen, liver, bile passages, intestines and peritoneum; it may result from various dislocations and diseases of the kidneys and other abdominal organs; it is often an accompaniment of hysteria and cerebral and spinal disease; we may find it resulting from constipation, carcinoma, pulmonary and intestinal tuberculosis, and lastly from inflammatory adhesions existing between the gastro-intestinal organs and the uterus and its appendages.

To this group of causes of reflex vomiting may be added the fact of the occurrence of gastric disturbances in the period of puberty and during menstruation. These instances, then, will serve to prove the fact which I wish to emphasize, that various irritations arising in different parts of the organism may occasion reflex vomiting. It is undoubtedly due to the ignoring of the above facts that so much confusion and misunderstanding exist in reference to this subject. It is clear that we must make a distinction between the true vomiting neurosis of pregnancy apparently occurring independent of any macroscopic pathologic change and that form of vomiting induced by conditions other than the state of pregnancy. The one type may be termed vomiting of pregnancy, and the other vomiting in pregnancy.

Simple vomiting of pregnancy may occur only as an accompaniment of the first

pregnancy, or, as it often happens, it may accompany not only the first but every subsequent conception. Simple vomiting of pregnancy, or morning sickness, usually develops during the first three or four months of pregnancy and ordinarily yields to simple treatment, if it be timely and rationally applied. In some cases there exists simply a slight nausea upon arising, which may disappear after eating and not return during the entire day; in other cases, nausea develops in the morning before arising and may be controlled by taking breakfast in bed, by resorting to some simple medicinal means, or by the wearing of an abdominal band. In other cases, there is a continuous feeling of heaviness and distress in the stomach, with attacks of vomiting during the day in which the entire amount, or only a fractional part of the ingested food may be expelled from the stomach.

If left alone or only indifferently treated, these cases often recover spontaneously at the end of the fifth month; whereas if they continue beyond this period the vomiting may persist during the entire pregnancy. These cases of vomiting in which there is no decided disturbance of the general health and nutrition are termed simple vomiting of pregnancy. In other cases, however, from the very beginning of the attack, or as the result of a continuance of the symptoms aforementioned, the vomiting grows in severity, so that at last the patient is unable to retain either solid or liquid food of any kind, and retching, straining and vomiting continue uninterruptedly although the stomach be perfectly empty.

The appetite may be entirely abolished or, where it exists, the patient may refuse all food for fear of aggravating her condition. The general nutrition fails, and

there is a steady loss of weight. The bowels may be constipated or move only sparingly, the fæces consisting simply of the gastro-intestinal secretions as is typical in cases of inanition. The vomit may, at this stage, be of a heavy mucous nature, streaked with blood and admixed with biliary and intestinal secretions. The urine may contain blood and albumen, conditions typical of pronounced inanition. Fever often develops at this stage and eventually various nervous symptoms supervene, such as muscular spasms, delirium and coma; when they do, the case has assumed a very grave aspect and is usually followed by death.

That death from hyperemesis gravidarum does frequently occur in the practice of some physicians is shown by various statistics. Thus, in one series of 239 cases there were 95 deaths recorded; in another series of 57 there were 28 deaths; and in still another series of 118 cases there were 46 deaths recorded. Fortunately, however, the progress made in recent years on the subjects of dietetics and diseases of the stomach enable us to achieve much more satisfactory results than those detailed in the aforementioned statistics.

In attempting to clear up the cause of simple and grave vomiting of pregnancy our task is beset with many difficulties, for the reason that so many different agents may act together in the production of the trouble, and further that it cannot be positively demonstrated that the so-called neuroses, of which true hyperemesis is a type, are really elementary conditions. In the first place, the fundamental cause of the vomiting may be a gastro-intestinal disease, either acute or chronic, such as catarrh, hyperacidity, ulcer, carcinoma, etc.

Secondly, genito-urinary diseases such as metritis, ovaritis, etc., may lie at the bottom of the difficulty.

Thirdly, it may be induced by disease or irritation of any of the organs which may produce, as we have seen in the beginning of this paper, reflex vomiting.

In the fourth place, aside from any of the above causes, we have a number of cases in which there is no recognizable source of irritation other than the normal gravid womb, and these cases may be looked upon as genuine neuroses and types of true hyperemesis gravidarum.

It is, of course, evident that mixed forms of this difficulty may occur in which different causes may operate at the same time.

Numerous writers, such as Kaltenbach, Ahlfeld and others look upon this difficulty as simply an expression of hysteria. Other writers, such as Eulenberg and Dirmoser suspect that auto-intoxication is the primary cause of the trouble.

The idea of hysteria being the fundamental cause may be dismissed, and the hypothesis of auto-intoxication has as yet received no substantial corroboration, although it was propounded a number of years ago.

Most of my patients who have suffered from this difficulty have been of a highly nervous but hardly of a hysterical temperament. The auto-intoxication, which may be physically and clinically demonstrated, no doubt, is not unlike the intoxication often seen in cases of starvation. In fine, we are justified in assuming that true hyperemesis gravidarum is a neurosis without any apparent gross pathological condition, and that the other types of hyperemesis, which may be equally as severe in their course, are caused by various pathological conditions acting pri-

marily or secondarily in the production of the vomiting.

This brings us, then, to the subject of the treatment of these difficulties. If there was any doubt as to the validity of the statement that there exists a great deal of misunderstanding in reference to hyperemesis it would be dispelled by a perusal of the various therapeutic measures suggested in this disease. Almost every therapeutic agent has been recommended for the cure of vomiting of pregnancy and hyperemesis gravidarum. And, while many of the agents may prove beneficial, they have been, in the majority of instances, illogically and unsystematically prescribed.

For instance, no less an authority than Liebreich recommends, off-hand, citric acid, ice, bitter almond water, morphine, tincture opium and cerium oxalate, without in any exact manner taking into consideration the condition of the stomach or the true source of the cause of the difficulty. In addition to these substances, we find recommended by various writers, in the same inconsequential manner bromides, menthol, cocain, ext. hydrastis canadensis, tannate of orexin, tinct. nux vomica, tincture iodine, chloral hydrate, bismuth and further lavage, gavage, nutrient enemata, intra-gastric electricity and suggestion, tampons, cervical dilatation and finally artificially induced abortion.

It may be said that there is no particular cure for hyperemesis which can be applied in each case alike. It is my practice to elicit as complete a history as possible in regard to any uterine or digestive disturbance. It is advisable to make a thorough examination of the organs suspected of being in an abnormal condition. Always examine the stomach contents and

the urine; the treatment will hinge mainly upon the result of the stomach analysis, both physical and chemical. If there is atony of the stomach walls I use strychnine or nux vomica.

For hyperacidity, I use astringents, neutralizants or medicated lavage.

For hypersecretion, without atony, I use atropine, belladonna or lavage.

For catarrhal conditions I use acids and stomachics. -

Where there is a great deal of nervousness I resort to bromides per rectum.

For badly relaxed abdominal walls or ptosis of any of the abdominal organs I use some form of abdominal support.

For constipation I use injections. I almost invariably resort to a neptune bandage, sometimes hot, but usually cold.

I use orexin when the acidity is not too high, and when the stomach is not excessively irritated. Bismuth and oxalate of cerium I use as local sedatives.

I never use opium or any of its derivatives; they are particularly contra-indicated when the gastric acidity is very high and the gastric secretion very profuse; they also have a detrimental effect upon the bowels and the nervous system. I have seen three cases in which grave and threatening results were produced by the careless overadministration of opium and morphine.

The question has arisen on several occasions whether any particular medicinal measure can act injuriously upon the pregnant woman's embryo; no drugs excepting ecbolics are contra-indicated in pregnancy when they are intelligently administered within the limit of their physiological and therapeutic action.

Every conceivable combination of drugs, and also various physical means, such as lavage, gavage, electricity and

the abdominal band and compress have been used the world over without the production of any objectionable results.

There yet remains for consideration the dietetic control of this difficulty. I usually resort to the bland liquids, such as milk and lime water, egg albumen strained or some specially prepared milk powder of which there are many on the market, which I administer in small quantities every five to 15 minutes, keeping the patient in the recumbent position with the head as low as possible. Nutrient enemata may be used and sometimes give good service, but I have never felt obliged to resort to them in this disease. I never resort to artificially digested foods.*

After three or four days I allow the patient semi-solid food, always selecting the food in reference to the chemical condition of the secretions and the motility of the stomach, and as much as is permissible in reference to the taste, appetite and peculiarities of the patient. I have never resorted to artificially induced abortion, and have always achieved satisfactory results by following out this line of treatment.

SOME ESSENTIAL POINTS IN THE USE OF THE KELLY FEMALE CYSTOSCOPE.

BENJAMIN R. SCHENCK,
Detroit.

Although the method of examining the female bladder by means of the open cystoscope, introduced into the air distended bladder, has been before the profession for nearly a decade, and has been extensively used, with the greatest satisfaction, in a few hospitals and clinics, it has not

been very generally adopted by the profession, and its advantages are, consequently, too little known. This failure to employ the simplest of all forms of cystoscopy has been due, I believe, to discouragements brought about by the unsatisfactory results of the first few trials, and the lack of perseverance in using the instruments.

For the introduction of this simple procedure, we are indebted to the genius of Howard Kelly, who in 1894 first described the instruments and the method of their use. A number of modifications have since appeared, but despite the careful descriptions and the clear illustrations, one constantly sees attempts being made, not only without proper attention to the details of position, etc., but also even with improper, and at times absolutely impossible, instruments. Failure ensues, and the result is discouragement and dissatisfaction with the method. As an example of this disregard of the fundamental points, the writer, on being asked to explain why the method was not a success in one of the large clinics in Germany, witnessed a demonstration and found that the cystoscope in use was so short that only the internal urethral orifice could be seen. Moreover, the patient was in the knee-elbow position and not in the knee-chest, as is necessary, yet the surgeon complained that he could not make the bladder dilate.

During several years of teaching and demonstrating this method, the writer has repeatedly noted that beginners fail because they do not appreciate the importance of a few simple, but fundamental and extremely important points in the technique. An attempt is here made to emphasize these points. The instruments necessary are (1) urethral dilator, (2) cystoscopes, (3) urethral searcher, (4)

*Artificially Digested Foods, L. Breisacher, Jr., A. M. A., '02.

"alligator" forceps, (5) evacuator, (6) electric light, or Welsbach gas burner, and (7) head mirror.

These are too well known to require a detailed description, but attention should be given to the following important points: Three cystoscopes are sufficient. They should be Nos. 8, $9\frac{1}{2}$ and $10\frac{1}{2}$, which numbers represent the diameters of the tubes in millimeters. The instrument which is usually found in the shops is wrongly constructed in two very essential points. (1) The barrel is often too short, so that, while the instrument may serve very well as an endoscope for the urethra, it is practically useless for the examination of the bladder. *The tube should be 11 cm. long.* (2) The handle is usually fashioned after Kelly's early model and is much too small. It should be large enough to be firmly grasped by the whole fist, for in viewing certain parts of the bladder, some distortion of the urethra is necessary. While this does not require much force, if only the thumb and index finger be used, as the small handles require, they soon become stiff and the instrument cannot be held steadily. *The handle should be at least 12 cm. long and thick enough to be firmly grasped with the whole hand.*

The "alligator" forceps, such as are used in throat work, *should be 16 cm. long* and as delicately constructed as possible, so that the instrument, when inserted into the tube of the cystoscope will not obstruct the view.

The most convenient evacuator is that recently introduced, in which the urine is collected in a bottle, rather than in the bulb of the aspirator. Only the metal tube, which is inserted into the bladder, through the cystoscope, needs to be boiled,

the rubber parts therefore lasting much longer than in the older form.

After some practice the ordinary electric lamp answers well, but for the beginner one of ground glass is preferable, as the image of the wire is at first confusing. With practice, however, one soon learns to use its bright reflection to illuminate the field, thus obtaining a brighter light than with the ground glass lamp.

Another important detail, often overlooked, is the curvature of the head mirror. It is most important that the focal length be correct, and experience has shown that *a mirror with one of $11\frac{1}{2}$ inches*, is best fitted for the normal eye.

In addition, there should be at hand, a bag of little absorbent cotton pledgets, 1 cm. in diameter, solutions of 10 and 20 per cent. cocaine, one or two medicine droppers and a small amount of boro-glyceride. All these must be sterilized.

If now the following points in the use of these instruments be faithfully observed, they can be satisfactorily employed by any one, and with little practice, all parts of the bladder may be systematically examined.

With the patient on her back, the vulva and external urethral orifice should be thoroughly cleaned with soap and water, followed by boric solution. Pledgets of absorbent cotton are best used for this. *As much 20 per cent. cocaine, as is contained in a medicine dropper* is next injected into the urethra.

After waiting from 5 to 7 minutes, the patient then assumes the knee-chest position. *The correct application of this position contributes more to success than any other one factor.* The knees, separated about 8 inches, should be at the edge of the table, the chest (not the elbows)

should rest on a flat pillow, and a line, extending from the trochanter to the knee, should be perpendicular. If these three points be noted, the back will be bowed, and the intestines falling out of the pelvis, the vagina and bladder, on being opened, will dilate through atmospheric pressure.

The next most important point is to dilate the vagina, *before the urethra is opened*. To do this, the labia is simply separated, or a small speculum is momentarily inserted. If this be not done, when the cystoscope is introduced, the base of the bladder balloons upward and with the urethral orifices, becomes invisible.

The urethral dilator, well lubricated by dipping into the boro-glyceride, is then introduced and the urethra gently dilated to $9\frac{1}{2}$ to 10 cm. Often in multiparæ no dilatation is necessary.

The selected cystoscope is then substituted for the dilator, and as the obturator is withdrawn, air will rush in and distend the bladder. The residual urine is aspirated by the evacuator and the *tube of the cystoscope wiped out* with the little pledgets, held in the alligator forceps. This last point is important, but often neglected.

The only remaining difficulty is the management of the reflected light, but this is soon overcome and the systematic examination of the whole bladder becomes easy. One may become skillful in the use of the light by examining the inside of a paste-board box, through a cystoscope inserted in a hole cut in the side.

Anatomical relations are sometimes confusing to a beginner on account of the inversion of the patient. Attention is called to the excellent illustrations accompanying an article by Hunner and Lyon, in the *Journal of the American Medical Association*.

JUNGLE DENTISTRY.

Oh! this pain," said Mrs. Hippo,
"Drives me mad,
It's the very worst toothache
I ever had;
To the monkey doctor I will
Go this day—
And see what science he
Can bring to play."

So she went and rang the little
Doctor's bell—
And she said, "Oh! Mister Monkey,
Can you tell
What on earth is making all this
Awful pain?
If I stand it longer I will
Be insane."

So she sank into the monkey
Dentist's chair;
"Mind," she said, "if you hurt me I
Do declare
I will bite your head off quickly,
And you'll see
That I won't stand monkey business
Here with me."

Tremblingly the monkey took a
Little peep,
Then with gas he put the Hippo
Fast asleep.
Propped her awful mouth wide open
With a stick,
And then said unto himself
"I must be quick."

"This big tooth must come out quickly,
And I might
Blow out the thing with patent
Maximite."
So he placed a cartridge near the
Awful root,
Then ran out the door to listen
To it shoot.

Oh! what awful noises rent
The summer air—
Parts of Mrs. Hippo flew most
Everywhere;
Then like other doctors, he was
Satisfied—
For he said it was successful,
But she died.

—Henry Lippincott.

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DECEMBER, 1903

Editorial

ELECTION OF DELEGATE AND ALTERNATE.

The attention of the secretaries of the county medical societies is called to the following by-laws of the Michigan State Medical Society:

Chapter XIII, Sec. 11—At the first meeting after *January 1st*, due notice having been given, each County Society shall elect annually a delegate, or delegates, to represent it in the House of Delegates of this society in the proportion of one delegate to each *fifty* members or major fraction thereof. (See By-Laws, Chapter IV, Sec. 1.) The secretary of the County Society shall immediately send the list of the delegates to the secretary of this society.

Chapter IV, Sec. 1, By-Laws, reads: Each component County Society shall be entitled to send to the House of Delegates each year one delegate for every *fifty* members, and one for each major fraction thereof; but each County Society holding a charter from this society, which has made its annual report as provided in this Constitution and By-Laws, shall be entitled to one delegate.

At the last annual session of the state society the House of Delegates by resolution provided that an *alternate delegate* shall be elected with each delegate.

It is hardly necessary to remind the county societies that the business of the state society is transacted entirely by this House of Delegates and that each society is earnestly requested to elect as delegates members who will not only give thought to the needs of the society but who will

attend the next meeting of the House of Delegates at Grand Rapids, May 25-27, 1904. There is nothing in the by-laws to prohibit the election as delegate of an officer of a county society, nor the returning to the House of Delegates of members who have manifested an interest and a willingness to aid in the welfare of the state and county societies.

DRUMMING AT HOT SPRINGS, ARKANSAS.

Drumming patients for doctors is reported at many health resorts, but nowhere has it reached so luxuriant a growth as at Hot Springs, Ark. Various plans to abolish the practice have failed. Finally the general government entered the field. The basis for this action rests on the fact that the government owns all the hot springs and so can discriminate as to whom it may sell its hot water. Sept. 18th it requested all the physicians to submit their credentials to practice. Thirty-seven of these were forbidden to use the hot water or to practice in an hotel or bath house receiving the water.

The following extracts from the new regulations give an idea of the government's methods (*The Hot Springs Med. Jour.*):

"Rule 9—No bath house supplied with water from the Hot Springs Reservation shall permit any person to bathe therein who is under medical treatment, unless the applicant for baths presents satisfactory evidence that he or she is the patient of a physician duly registered at the office of the Superintendent of the Hot Springs Reservation as one qualified to prescribe the waters from the Hot Springs, and who is known not to be engaged in drumming for custom."

"Rule 10—Physicians, desiring to prescribe the hot waters of the Hot Springs, either internally or by baths, must first be registered at the office of the Superintendent of the Reservation. Registration will only be accorded

such physicians as are found, by the Board of Physicians designated by the Secretary of the Interior, to have proper qualifications and character, and who do not engage in drumming for custom. The solicitation of patronage, through the medium of drummers, by registered physicians is prohibited; failure to observe this requirement will be sufficient cause for cancellation or revocation of registration."

To stop "drumming" at Hot Springs, Ark., the government has listed the physicians it deems qualified to practice medicine in the hotels, etc., where it sells its hot water. These are forbidden to "drum" or to patronize those who do drum for business, under penalty of being cut from the privileged list. It has ordered that no hot water be sold to hotels or bath houses which admit the patient of any doctor not on its list. In this way—on paper—it has hit "drumming" at both ends. It now remains to be seen whether its agents will enforce these rules. If they do, "drumming" will be extinguished at Hot Springs, Ark., a condition as heartily desired by the profession of Hot Springs as by the medical profession in general.

On October 24, 1903, Chancellor Leatherman, in a test suit, held the Gantt Anti-Drumming Law to be constitutional, a most important decision in the interest of the high class medical legislation for which Arkansas is striving.

County Society News.

CALHOUN COUNTY.

The twenty-sixth annual meeting and seventh annual banquet of the Calhoun County Medical Society, Branch No. 1, M. S. M. S., (being the second since the re-organization) was held in Battle Creek, December 1, 1903.

2:00 P. M.—PAPERS.

F. W. Robbins, Detroit—"Hemorrhage from the Bladder."

J. H. Reed, Battle Creek—"A contribution to

the Chemistry of Diabetes Mellitus, with special reference to Coma and its Treatment."

Angus McLean, Detroit—"Congenital Dislocation of Hip."

L. S. Joy, Marshall, President's Address—"Catholicity in the Practice of Medicine."

The banquet was held at the Battle Creek Sanitarium at 7 p. m.

Secretary's report, December 1, 1903.

Since the last report, three meetings have been held. The first or annual meeting for 1902 was held at Marshall, December 9, 1902. At that meeting there were thirty-two members present. This was the first meeting after the re-organization.

OFFICERS ELECTED.

President—Louis S. Joy.

Vice-President—James H. Reed.

Sec.-Treas.—W. H. Haughey.

Delegate—A. W. Alvord.

The Board of Directors—J. L. Ramsdell for five years, Eugene Miller for four years, E. J. Pendell for three years, A. J. Abbott for two years, and C. G. Vary for one year. Dr. Vary's term of office has expired and his successor is to be elected at this meeting.

There were eight applications for membership, seven of which were accompanied with the fee and were favorably reported by the Board of Directors and elected to membership. The other, not being accompanied with the fee, was held over.

At this meeting, Dr. S. S. French was elected to honorary membership in our County Society.

After the meeting an elegant and sumptuous banquet was given to the members and their ladies, by the ladies of Marshall. A fine program of toasts was arranged and well delivered, a pleasant and profitable evening was spent, and at a late hour the members departed for their respective homes.

The first meeting in 1903 was held in Battle Creek, March 3. There were present at this meeting twenty-seven members. One new member was admitted.

Owing to the meeting of the State Society conflicting with the June meeting of our County Society, the June meeting was not held, bringing the next meeting of the society September 1st, at Albion. Eighteen members were present. At this meeting we were honored with a visit from Dr. A. E. Bulson, of Jackson, and Dr. A. P. Biddle, of Detroit. Six new members were elected and Dr. Eshleman, whose application was presented at a previous meeting, sent in her fee and was also elected to membership.

During the year fifteen new members have been elected, six have removed from the county and one is dead, making a total increase of membership of eight. During the year nine scientific papers have been read and thoroughly discussed before the society. Some of these papers were exceedingly valuable, two were read by gentlemen from a distance, namely, Dr. Angus McLean, of Detroit, and Dr. W. H. Bills, of Allegan.

This is the first year under the new organization plan and the results thus far shown have proved it a success. Our meetings have been well attended, great interest has been shown. Our delegate to the State Society, Dr. A. W. Alvord, made a comprehensive and interesting report of the state meeting, and it was noteworthy that more members of this, as well as other county societies, attended the State meeting this year than in any other year in its history.

Your secretary would suggest that, inasmuch as Dr. E. H. Coller, for many years a member of our county society, is in poor health, with no or very little prospects of any improvement, he be elected to honorary membership in the Calhoun County Medical Society.

W. H. HAUGHEY, Sec'y.

Treasurer's report, December 1, 1903:

Balance, cash on hand, received from Auditing Committee	\$ 11.35
Collections from members.....	148.00
Total	\$159.35
Expenditures	147.75

Leaving a balance of..... \$ 11.60
Dues to the State Society, collected and forwarded to the Editor of the Journal. \$108.00

W. H. HAUGHEY, Treas.

In Memoriam—Dr. Geo. H. Green, Marshall.

EATON COUNTY.

The regular meeting of the Eaton County Medical Society was held at Grand Ledge, October 30th. The following was the program:

1. Call to order by the President.
2. Reading of minutes of last meeting.
3. Petitions for membership.
4. Reports of committees.
5. Election of members.
6. Unfinished business.
7. Paper by Wm. F. Breakey, Ann Arbor.
8. Discussion of Dr. Breakey's paper.
9. Clinical cases and general discussion.
10. Miscellaneous business.

11. Announcements.

12. Adjournment.

The Society was entertained by the physicians of Grand Ledge.

W. H. RAND, Sec'y.

I visited Eaton County Medical Society at Grand Ledge, October 30th. There were seven members present, one member elected and four applications, making twelve present in all. There is no change in the officers as yet.

It was an enthusiastic meeting, President Wm. F. Breakey and Lecturer Jas. H. Reed were both present and read papers which were thoroughly discussed by the members. All present seemed to be deeply interested in the work.

W. H. HAUGHEY, Councilor.

FIFTH DISTRICT MEDICAL SOCIETIES.

A meeting of the Kent, Ionia and Ottawa County Medical Societies was held on Oct. 8, 1903, at Grand Rapids.

PAPERS AND DISCUSSIONS.

OVARIAN FIBROIDS.

S. C. Graves, Grand Rapids: Ninety-five per cent. of all ovarian tumors are cystic or fibro-cystic in character. This figure includes multi-locular, parovarian, papillomatous, dermoid and fibro-cystic cases. The remaining 5 per cent. represent solid ovarian tumors, which include carcinomata, sarcomata, fibro-myomata and tumors of purely fibroid tissue. The latter variety is the rarest type of ovarian neoplasm.

Presented specimen with following history: Age 28, uterus sharply retro-flexed; mass, size of adult fist, seemingly fixed in anterior uterine wall; supposed to be a uterine fibroid. Operation (coeliotomy) revealed nature of growth to be a fibroma of left ovary, the left broad ligament forming the pedicle; over its surface ran the Fallopian tube. Upon section the structure resembled that of the common uterine fibroid; diagnosis confirmed by pathological report.

PRIMARY SARCOMA OF CLAVICLE.

S. C. Graves, Grand Rapids: Sarcoma of clavicle, sternum, ribs and short bones of hands and feet exceedingly rare. Presented case with the following history: Male, age 27 years; cachetic; inner half of left clavicle perceptibly larger than its fellow. No history of injury or syphilis. Pain upon manipulation of shoulder. Entire bone removed by sawing through center and dissecting out both halves. Difficult to remove inner half on account of exposure of left innominate vein. Microscopic examination showed growth to be a

large round-celled sarcoma. Patient presented (one month after operation), no drooping of affected shoulder. As to recurrence it is impossible to state.

D. G. Cook, of Holland, referred to a case of removal of an entire necrosed clavicle; necrosis due to injury. Recovery rapid and since recovery man has been able to follow occupation without interference. Manner of carriage appears so natural that it would not be noticed that he had lost his clavicle. Patient presented.

INJURIES OF THE KNEE JOINT.

T. C. Huizinga, of Zeeland: The knee joint, being the largest and most exposed, is liable to serious injuries; slight superficial wound or bruising of tissue about joint may result in infection of same. In the treatment of injuries to the knee joint he urges the following: Be surgically clean; secure complete rest by the use of splint; prevent or retard inflammatory action by the use of ice. If there be any indication of pus in the joint open and drain early and freely. And further, if the symptoms do not abate, but life is threatened, a resection or amputation should be performed. Two cases were reported in illustration.

SOME OF THE USES OF ATROPINE IN GENERAL MEDICINE.

C. S. Cope, of Ionia: Atropine acts as an antispasmodic and overcomes constriction of blood vessels; accomplishing dilatation by relaxation of circular fibres, and permitting the vessels to assume a normal lumen. Action especially directed to capillary system. Advises its use in the treatment of appendicitis preparatory to operation and in all cases of abdominal pain. Remedy to be given in hot water, in small doses and frequently, 1/50 gr. of atropine in 3 ounces of water, one teaspoonful every five minutes until relieved. Recommended strongly in hay fever, in rhinitis and acute inflammatory conditions of other mucous membranes; especially in shock and in the hemorrhages of small vessels in obstetrics and gynecological work.

HEMORRHAGE AFTER CHOLECYSTOTOMY.

Wm. Fuller, Grand Rapids: Case, a robust man; had several attacks of passage of gall-stones during the last five years, some protracted and accompanied with jaundice. At time of operation deeply jaundiced; stools gray, urine offensive and loaded with bile, pain in right hypochondrium of spasmodic character. Several large stones removed; gall bladder large, thick, very tense and filled with stones and a viscid yellowish bile and mucus mixed. Eighth day after opera-

tion severe hemorrhage from wound; blood thin and did not coagulate. Gall bladder packed with iodoform gauze, compress and tight bandage applied. Next morning he vomited about a pint of blood and subsequently passed some blood by stools, which indicated that the common duct was pervious. Two pills of given every four hours for two days and afterwards one after each meal. Hemorrhage recurred slightly in about four weeks. General condition became worse and he died Sept. 12th. Postmortem disclosed extensive carcinoma of gall bladder and multiple deposits in the liver.

Dr. Fuller raises these questions: (1) Was the hemorrhage due to a stone in common duct, which had ulcerated into portal vein? (2) Was it due to the removal of the pressure within the gall bladder and ducts of the liver with rupture of the distended capillary vessels of the lining membrane? (3) to an altered condition of the blood in the portal system due to the absence of a necessary element resulting from a want of bile in the intestines? or (4) Was it due to malignant disease?

S. C. Graves, Grand Rapids: Post-operative hemorrhage following incision into gall bladder is a most serious and often fatal complication. According to reports in literature it usually occurs in deeply jaundiced patients; but etiology is unknown. The source of the hemorrhage he believed to be the mucous membrane lining of the gall bladder. Jaundice is not necessarily a factor in the etiology of the gall bladder in his experience, as one of his cases occurred in a young woman free from any trace of same. Has had three cases of hemorrhage following operation on gall bladder. The first recovered through the use of compresses; the other two died. One of the latter was one of dilated gall bladder from cancerous obstruction of the ductus communis choledochus and the only malignant biliary case ever operated upon by him.

DIABETES.

James Mulhern, Grand Rapids: Believes the disease to be seated in the liver, that organ centralizing all its energies to the one purpose of elaborating liver sugar, leaving the general system poisoned by the deleterious substances which should be eliminated and robbing it of other substances intended for economic purposes. The cause, he believes, to be a low, depressed state of nervous vitality. The condition may be brought on by a sudden shock, but then it is usually transitory. Indulgence in sugary substances not the cause.

Treatment: Surround the patient with conditions calculated to make him comfortable and free from anxious care. Strengthen nervous system with nerve tonics, chiefly strychnine. Regulate the liver by active hepatics, namely arsenic, calomel, phosphates of soda, podophyllin, and in malarial climate quinine.

Push vigorously the hepatic remedies. Keep system free from uric acid, as the effect of an excess on liver is to obstruct smaller blood vessels and thus retard hepatic circulation. Give pancreatin freely to aid pancreatic gland, deprived of its usual help by absence of bile. Give unrestricted diet, as nourishing as possible. Do not be afraid of saccharine substances; they draw but little on the energies of the liver to be converted into glucose. All nervous agitation is best controlled by the use of opium.

CHRONIC CYSTITIS.

F. W. Braley, Saranac: Chronic Cystitis may be defined as a low inflammation of the urinary bladder, attended by a thickening of its various coats. Bacteriology has thrown much light on the causation of this malady. It is not alone sufficient that there be irritation, traumatism, or obstruction, but there must also be an invasion of bacteria either through the blood or the urinary tract. When we consider the pathology of the vesica, in chronic cystitis, we may comprehend how the mucosa congested by the use of irritating drugs and foods by a calculus, injured by unskillful surgical procedure or weakened by a hypertrophying prostate, forms a fertile field for the development of bacteria. The microscope has demonstrated normal urine to be free from bacteria, whilst cystic urine contains bacteria in abundance. However, we are not obliged to depend upon the microscope alone in making our diagnosis, for a turbid, alkaline urine (occasionally acid) containing mucus, pus and sometimes blood, accompanied by painful, frequent, and scant micturition, makes the picture too plain to admit of doubt. That the disease is more prevalent among men than women is probably due to their more strenuous occupations as well as to anatomical conditions.

The prognosis depends upon the possibility of removing predisposing causes surgically or otherwise. The malady is more troublesome than dangerous to life, and in cases where there is no hypertrophy of the bladder walls, where the patient's age is in his favor, and where the constitution is good, the prognosis is hopeful. Usually the physician is not called upon to attend a case of chronic cystitis until there is tenesmus and incontinence or retention of urine; often the com-

plaint is tenesmus and hemorrhage, and where there has been an extension to the kidneys, there may be suppression. Called to cases of chronic cystitis it becomes the physician's duty first to give relief, then to adopt some form of rational treatment adapted to his patient. If the reaction of the urine be unnaturally acid, an alkali can be used both locally and internally, preferably boracic acid; and if alkaline in reaction, locally a vegetable acid such as citric can be used, and some drug internally that will produce an acid reaction, benzoic acid being in preference. Anodynes should be used as sparingly as possible. All predisposing factors should be removed, displacement of the uterus should be corrected, structures should be dilated or cut, rectal diseases treated, and enlarged prostatic glands given proper attention. Sanitary conditions should be made favorable, and diet and exercise regulated to suit the condition of the patient.

It is necessary to free the bladder of the debris of broken down tissue, of the tenacious mucus, of the bacteria, of the stagnant urine and of all noxious substances, and in these cases this can be done only by thorough irrigation. Each step of the local treatment should be done aseptically. It is not alone sufficient that the catheter and douche bag be sterilized, but the operators hands and the genitalia of the patient should be as carefully prepared as for a surgical operation. The catheter and douche being ready, they may be attached by a Y-shaped instrument which controls the direction of the flow in or out by means of a stopcock; the instrument being of metal can be taken apart and thoroughly sterilized. The catheter is better lubricated by the sterilizing fluid in which it should remain until ready for use, than by smearing it with vaseline, lard, saliva or any other material of unknown sterility.

The catheter introduced, the irrigating fluid is allowed to enter the bladder, first at low-pressure and in small quantities, thus avoiding a spasmodic contraction of the bladder, which is painful, or the forcing back of septic material into the ureter. After the first portion of the irrigating fluid has been drained off, both the pressure and the quantity should be increased, so as to cleanse out the folds and crevices that might otherwise continue to hold deleterious substances. The bladder should not usually be allowed completely to empty itself during the irrigating process, as the suction is apt to draw the mucous membrane into the eye of the catheter with a click which is not only startling but painful. At the end of the irrigating procedure the catheter should be gradually withdrawn with gentle turning, so as to tap any

pockets of fluid that remain unemptied. Sometimes, however, it is best to allow a certain amount of the fluid to remain in the bladder for the purpose of neutralizing and rendering sterile the first portion of the urine.

Regarding the irrigating fluids, they should always be used at a temperature that will not chill and in some cases as hot as can be borne. We should choose those of marked germicidal properties and corrosive sublimate meets this requirement better than any other drug. Commencing with a weak solution of 1 to 20000, it may be increased to 1 to 1000, and considering the scarcity of lymphatics in the bladder it might be safely used even stronger. Among other drugs of known utility are carbolic acid, nitrate of silver, permanganate of potassium, boracic acid, etc. It does not matter so much which is chosen, but the treatment must be systematic, thorough and as frequent as the case may require.

To summarize, the treatment is:

1. Remove as far as possible predisposing factors.
2. Treat the bladder as a septic cavity.
3. Treat the bladder by both internal and local medicaments.
4. Practice asepsis in every step of procedure.
5. Use germicidal fluids of sufficient strength to be effectual.

URINARY CALCULUS.

John Brady, Grand Rapids: The urine is distinguished from all other animal fluids by the fact that it represents only the products of the waste of physiological disintegration of the body. It is a solution of the nitrogenous excrementitious matters of the animal frame. If its elimination from the kidney be in any way arrested or impeded, its accumulation in the system produces a disturbance of the vital functions which is more or less severe according to its special character and the rapidity of its production. Its poisonous influence is especially manifested in its action upon the nervous system, causing abnormal irritability, derangement of the special senses, delirium, insensibility, coma and death, a complete stoppage of urea producing a fatal result in three or four days; and yet, in spite of all that, we are not to consider the excrementitious substances, poisonous or even deleterious in the quantities in which they are normally found in the animal solids and fluids. Can it be that they are as essential to life as the nutritious materials supplied by the food?

When a stone finds its way into the bladder from the kidney, it may give rise to few symptoms beyond those of slight urinary irritation.

The patient may be conscious by his sensations that a bladder exists, but no more, and when the stone has passed with the urinary stream, that sensation disappears. When the calculus rests in the bladder and increases, it makes itself known by more characteristic symptoms. In the majority of cases the symptoms are so slight that they are disregarded. In the minority, they are far from slight or trivial. In fact they are very annoying and painful; nevertheless, a positive diagnosis cannot be based upon symptoms only. The symptoms of stone are subjective, they are those given by the patient, they are possibly suggestive of the affection, but not conclusive—they may all be produced by other bladder affections. The only conclusive evidence is that furnished by the physical examination of the bladder, by the sounding of the patient with a metallic sound or catheter, and the ringing of the stone against the end of the instrument.

Two cases were reported in illustration and specimens shown.

S. C. Graves, Grand Rapids, presented a vesical calculus removed at autopsy by Dr. H. O. Sarber, Rockford, which weighed almost 30 ounces when first removed, and is to-day (it is several years old) as large as an ostrich egg.

APPENDICITIS SIMULATING TYPHOID FEVER.

Ralph H. Spencer, Grand Rapids: So much has been written in the last few years about appendicitis that it would seem to be difficult to say anything new on the subject.

He has recently, however, treated a case which had such obscure and masked symptoms and, for about a week, so closely simulated typhoid fever, that he thought it might be of interest to report the manner in which the case was worked out to a correct diagnosis.

Patient—H. P., aged 21. Occupation, house porter in hotel. Saw him first, August 18, 1903.

He gave a history of not having felt well for a week past; complained of feeling tired; of having continual abdominal pain and diarrhoea; also, headache.

Temperature, at first visit, 102°; pulse, 100. Complexion, sallow; tongue, furred; no marked gastric disturbance; no vomiting.

He saw the patient for three days at his room, his symptoms remaining about the same; temperature varying from 99° to 102.6°; pain in bowels, and diarrhoea continuing; I made a diagnosis of typhoid fever, and ordered him to Butterworth Hospital. After reaching the hospital, where accurate record could be kept and diet regulated, his temperature ran lower for several days, but

the diarrhoea was still persistent, the discharges being of a pea soup character.

Diazo test of urine gave negative results; bowels were tympanitic from the beginning.

On the 25th, or when the patient had been under observation for seven days, he discovered a small area of dullness over the ileo-cæcal region, and that, with muscular rigidity and pain on deep pressure, also the temperature curve failing to be typical of typhoid, led him to suspect that there was an abscess forming as a result of ulceration and perforation of the appendix. This theory was strengthened by a daily increase in the area of dullness, and on August 30th, Dr. Harrington began making a daily blood count. The result follows:

August 30.

Reds	3,750,000
Whites	12,500
Hg.	80%

August 31.

Reds	4,120,000
Whites	16,000
Hg.	75%

September 1.

Reds	4,200,000
Whites	20,000
Hg.	75%

By the result of this blood count it will be seen that there was a daily increase in leucocytes, which strengthened the theory of appendicitis; in fact, by this time, the tumor was perceptible to the eye, and gave a tympanitic note on percussion, showing that gases were forming in the walled-off abscess.

Operation was advised, and performed September 2, or just two weeks from the day the patient was first seen.

Operation consisted of simple incision just above the McBurney's point, which evacuated a very large quantity of foetid pus, and several fecal concretions floated out.

No attempt was made to find the appendix. Drainage was established through two pieces of rubber tubing extending eight inches into the pelvis. These were cut off from time to time as granulation crowded them out, and were all out in about two weeks.

Patient made an uneventful recovery.

DIAGNOSIS AND TREATMENT OF ACUTE GASTRO-INTESTINAL DISEASES OF CHILDREN.

Collins H. Johnston, Grand Rapids: Our knowledge of the etiology of these diseases is as yet quite uncertain. We know in a general way that disturbances of the stomach and bowels in

children may be due to nervous influences alone, or may be caused by various specific organisms which produce disease either of themselves or through their toxins. The small intestine, especially the lower part of the ileum, and the colon are usually the seat of trouble.

The differential diagnosis of these diseases is frequently very uncertain. Vomiting may be a very misleading symptom and may occur in disturbances of any part of the gastro-intestinal tract. Serious symptoms are often found at the autopsy to have been produced by no pathological lesion whatever, while ulcers of the stomach may be accompanied by no vomiting nor diarrhoea whatever. The height of the temperature, the pulse, and the general appearance of the infant, are important diagnostic, as well as prognostic, features. In general, an elevated temperature of short duration points toward functional toxic disturbances, while a long continued fever indicates inflammatory changes.

The most frequent disorder of the stomach in infancy is acute gastric indigestion. Its cause in almost every case is impure or improperly prepared milk. The symptoms are nausea, gas in the stomach, its resulting distension, and pain and vomiting. The bowels may be constipated or relaxed. There is little or no fever. There may be an entire absence of vomiting. Prognosis is usually good. The treatment is to empty the stomach by washing it out, or by the administration of warm water. Dr. Johnston does not think lavage of the stomach in infants is resorted to as often as it should be. It is very easily performed in children under two and one-half years of age, and its effects are sometimes simply marvelous. For its performance, we use a soft rubber No. 10 catheter. To this is joined, with a short glass tube, a couple of feet of rubber tubing and a glass funnel. The child is held in a sitting posture and the catheter passed down the esophagus about ten inches. From two to six ounces of water is poured into the funnel, which is then lowered and the water allowed to run out. This procedure is repeated until the fluid comes back perfectly clear. In this, as well as in all other acute gastro-intestinal diseases in infancy, no food whatever should be given for from four hours to four or five days, depending upon the gravity of the case. Dr. Parke, of Birmingham, Ala., has recently reported a case in which food was withheld for eight days from an infant of ten months with acute ileo-colitis, and the child recovered. Nothing whatever was administered during this time excepting water. No milk should be given for at least three days and frequently

it must be withheld for at least two weeks. During this time barley water, albumen water, peptonoids, panopeptone, or raw beef juice, in a dilution of one to ten, may be used. If a child is nursing the breast should be withheld altogether for at least twenty-four hours. A most common mistake is to begin food too soon and give too much, especially of cow's milk. A laxative may be given of one or two teaspoonfuls of castor oil or a grain of calomel in divided doses. Acute gastric catarrh in infants is rare. It is characterized by high fever. There may also be vomiting, delirium and stupor, symptoms which may accompany the development of almost any acute infectious disease. Instead of the cessation of the vomiting, however, in twenty-four to forty-eight hours, as in scarlet-fever, or the continuance of the cerebral symptoms as in meningitis, or of the development of pulmonary symptoms, as in pneumonia, the vomiting continues and the symptoms point to the abdomen rather than the head or thorax.

The symptom is much the same as with all acute indigestion. Benefit sometimes follows the use of bismuth subnitrate. The summer diarrhœas of infancy may be either infectious or non-infectious. Of the latter, the acute nervous diarrhœas form an important group of cases. It is due merely to exaggerated intestinal peristalsis in infants whose nervous systems are easily disturbed. The causes are various, such as heat, cold, fright, and dentition. The symptoms vary in intensity, the child is irritable, restless and sleepless, with usually slight abdominal pain. The intestinal discharges may vary from two to three to ten or twelve in twenty-four hours. Vomiting is rarely marked. With proper treatment the symptoms usually disappear in a few days. One or two drams of castor oil or a grain of calomel in divided doses may be given. The child should be kept in bed and food withheld altogether for twelve to twenty-four hours. Excessive peristalsis and pain may be relieved by a few drops of paregoric and hot applications to the abdomen. If there is a tendency for the diarrhœa to continue, bismuth may be given. The value of intestinal antiseptics in diarrhœas in infancy is still an unsettled question. Salol, resorcin, sulphocarbolates, and the salicylates, all have their advocates. Dr. Johnston gives salol in doses of one grain every three hours to children of six months of age. Sub-nitrate of bismuth is the most useful of all drugs in diarrhœas in infancy and may be given in ten-grain doses every two hours to a child one year old.

Acute fermental diarrhœas represent the great-

er proportion of the intestinal diseases which occur in infants during the warm months of the year. They are non-inflammatory and are caused by impure and improper foods and bad hygienic surroundings. There may be little or no fever, or the temperature may be high, and vomiting active. The diarrhœal discharges may vary greatly in frequency, amount, color, and consistency. It is distinguished from the inflammatory form of diarrhœa by its sudden onset, followed in a day or two by a normal temperature and a rapid disappearance of the severe symptoms, as soon as the intestine has been thoroughly emptied of its putrefactive contents. We must remember that cholera infantum and the acute inflammatory intestinal diseases are usually preceded for a number of days by this fermental form of diarrhœa. Such cases should never be neglected. The treatment is to remove the source of disturbance by thoroughly emptying the intestine. Castor oil and calomel may be given. Where there is a tendency to a prolongation of the symptoms, irrigation of the colon with normal saline solution once a day is indicated. Food should be withheld for at least half a day. Stimulants may be needed. Bismuth subnitrate should be given until the diarrhœa has ceased. No milk should be given for several days. Opium is contraindicated, as a rule. Toward the end of the attack a few small doses of paregoric may be used with caution to diminish pain and control excessive peristalsis which may result from nervous exhaustion. Hyperpyrexia should be treated by full baths in water at 90 degrees Fahrenheit.

Acute ileo-colitis or acute inflammatory diarrhœa is the cause of the large infant mortality during the summer months. In this form of disease, bacteria or their toxins make their way into the general circulation. For a day or two the only symptom may be a diarrhœa, but at the time when in any of the non-infectious cases recovery begins, a child in this disease becomes worse, and fever appears. The symptoms are well known. The lesions are easily found in the lower part of the small bowel and in the lower part of the ileum and the colon. The upper parts of the small intestines are generally empty and the mucous membrane normal. Cholera infantum is a severe, virulent infection, accompanied by rapid development of choleraform diarrhœa, grave depression of the heart and nerve centers. Terminal symptoms are due to the extreme abstraction of fluid. Vomiting and diarrhœa may come simultaneously. The stools may be odorless or very offensive. Much may be done in the way of prophylaxis. Too much food is frequently

given to infants during hot weather when the digestive functions are weakened by the excessive heat. An extra amount of water should be allowed and the milk should be fresh and as nearly sterilized as possible. It must be understood that not only bacteria but also their toxins which are not destroyed by pasteurization or sterilization may produce most serious results. Over-feeding, too frequent feeding, and the use of improper foods are most dangerous to infants in warm weather.

Prompt attention should be given to all slight gastro-enteric derangements. A water diet for a few hours and a gradual return to ordinary food may make further treatment unnecessary and prevent a long attack of diarrhoea. Sterilization of milk by heating to a temperature of 212 degrees injures the value of milk as a food very materially and is to be avoided. When a perfectly pure milk can be obtained it is better employed raw, but as this is rarely possible in cities, it is safer to purify by heating to 140 degrees Fahrenheit for fifteen minutes. This process kills from 98 to 99 1-2 per cent. of the bacteria without interfering in any way with its value as a food. The baby should be kept out-of-doors as much as possible. The clothing should be light. The tub bath of 90 degrees for fifteen or twenty minutes every three hours when the temperature exceeds 102 1-2 degrees in the rectum is a most valuable agent for allaying restlessness and reducing temperature and one Dr. Johnston has resorted to for many years. The child's head should be supported by the nurse and its body briskly rubbed to promote cutaneous circulation. The temperature of infants should always be taken in the rectum. The return to ordinary diet should be slow and carefully regulated. The quantity of nourishment at each feeding should be from one-fourth to one-half the amount given in health. It is seldom necessary to nurse or feed a sick child oftener than every two hours. After the period of water diet it is the habit of the writer to employ barley water when the motions are particularly foul, and the abdomen of the child is distended with gas. When these conditions are not marked, resort may be had to diluted broths and other albuminous foods. Inasmuch as broths do not keep well they should be prepared daily. The first indication of medicinal treatment is to evacuate the entire digestive tract. The colon may be emptied by irrigation, but to clear the small intestines castor oil or calomel may be used. When vomiting is not marked castor oil should receive the preference. The drugs that are usually resorted to by Dr. Johnston are salol, bismuth and paregoric. Stim-

ulants are needed in a great many cases. The daily quantity of brandy or whiskey should rarely exceed two to four drams and is best administered in a one to eight dilution with sterilized water. In cholera infantum or any severe ileocolitis, morphia, grain 1-100, and atropia, grain 1-800, may be given hypodermically to a child a year old and repeated every hour until the desired effect is obtained. To supply the tissues with fluid removed by the intestinal discharges, sub-cutaneous injections of normal solution are indicated. Half a pint may be injected into the cellular tissue of the abdomen or buttocks. Stimulants may also be administered hypodermically, if necessary.

GENESEE COUNTY.

The second annual meeting of the Genesee County Medical Society was called to order in the Dryden Parlor at 2:30 p. m. Nov. 7th, President Wheeler in the chair.

Out-of-town guests present: Drs. Leartus Connor and Hal. C. Wyman, of Detroit; Drs. Aitcheson and Uloth, of Ortonville.

The following officers were elected for the ensuing year:

President—J. F. Rumer, Davison.

Vice-President—R. N. Murray, Flint.

Secretary-Treasurer—H. R. Niles, Flint.

Board of Directors—C. B. Burr, Flint; L. J. Locy, Davison; Annie Stevens Rundell, Flint; A. R. Ingram, Fenton; M. S. Knapp, Flint.

J. B. Rice, of Fenton, and B. F. Beckwith, of Clio, were unanimously elected to membership.

The following papers were read and discussed:

"Syphilis," F. H. Callow.

"Syphilis in Its Relation to Diseases of the Nervous System," C. B. Burr.

"The Prophylaxis and Treatment of Syphilis," B. Cogshall.

An intermission was taken and at six o'clock thirty-five members and guests sat down to a banquet in the Dryden cafe.

The evening session was called to order at 7:30, and the reading of papers resumed:

"Gonorrhoea," G. V. Chamberlain.

"The Treatment of Gonorrhoea," J. H. Charters.

There were fifty physicians in attendance and the meeting was unusually interesting.

H. R. NILES, Secretary.

HILLSDALE COUNTY.

Program of the annual meeting of Hillsdale County Medical Society, November 20th, at Hillsdale:

PROGRAM.

Court House, Hillsdale, Mich., 1:30 p.m.

Call to Order by President.

Roll Call.

Reading Minutes.

Admission of New Members.

Election of Officers.

Continued and Relapsing Fevers—F. H. Spence, Hillsdale. Discussion opened by D. W. Fenton, Reading.

Smallpox—Max Vardon, Hillsdale. Discussion opened by Silas B. Frankhauser.

Retro-Displacement of the Uterus—Hugh D. Wood, Angola, Ind. General discussion.

Abdominal Surgery—E. B. Smith, Detroit. General discussion.

Relation of the Appendix to Pelvic Disease—Reuben Peterson, Ann Arbor. General Discussion.

President's Annual Address—Bion Whelan.

HERBERT FAZIER, Secretary.

HOUGHTON COUNTY.

The Houghton County Medical Society met at Houghton, Nov. 2nd.

There were sixteen members present at our November meeting. After routine business, the programme of the evening was opened by W. S. Jackson, who read a paper on "Treatment of Suppurative Otitis Media." The doctor said this was like any other abscess and should be opened early, as soon as bulging of the drum membrane was noticeable. By evacuating the pus, we avoid such serious complications as mastoiditis, meningitis, abscess of the brain, etc. It is well to examine the ears of children when they are suffering considerable pain and are not old enough to give you an idea of its cause or location. If you puncture the drum membrane and find only a little serum instead of pus, no particular harm has been done; if pus does not appear in a little while, the membrane will heal in about three days.

The next was a symposium on typhoid fever. The Etiology of Typhoid, W. K. West; Morbid Anatomy, A. B. Simonson; Symptoms, S. S. Lee; Diagnosis, Prognosis and Treatment, C. H. Rodi.

Discussion opened by J. E. Scallon followed by W. T. S. Gregg, A. F. Fischer, P. D. McNaughton, W. S. Jackson and S. C. Johnson.

JAMES HOSKING, Secretary.

IONIA COUNTY.

At the annual meeting, October 15, the following officers were elected:

President—W. L. Barnes, Ionia.

Vice Presidents, J. F. Pinkham, Belding; Chas. B. Gauss, Palo; E. F. Beckwith, Ionia; W. H. Flint, Clarksville.

Secretary—F. W. Braley, Saranac.

Treasurer—G. A. Stanton, Belding.

Censors—F. W. Martin, Portland; W. L. Barnes, Ionia; C. S. Cope, Ionia.

I also enclose a brief abstract of Hon. F. D. M. Davis' address.

F. W. BRALEY, Sec'y.

THE RELATION OF MEDICINE AND LAW.*

The physician, because of his position and acquaintance with the family, their physiology and what they need and what they eat, can and should advise to the end of their general health as men and women; he has a better opportunity than any one else of learning whether they are partaking of impure foods, and upon learning that such is the case should at once trace its source and report to the authorities; whether it be impure milk, dough, coffee, sanded sugar or sanded mustard, the family looks to him to warn them of danger, the law makes him the guardian.

A man has met with an accident; he calls a surgeon who sets it; the law says before he can do so he must be possessed of reasonable skill and learning before he holds himself out as able to do this work; that in reducing the fracture he must exert his best skill and, if necessary, call to his aid the skill of others to the end that the patient may have all the benefit possible from science; but the law requires no more of him in such matters than in the tracing out of impure food and impure water supplies. * * * * He should ever be watchful of the interests of the community.

There is a place when the physician occupies a very important position that requires the keenest judgment, discernment and study, and upon that skill, honesty and judgment must the law largely rely; that is in cases of insanity, that sad visitant of the human family. To properly discern it cannot, in my judgment, be done in twenty minutes or half an hour as is frequently done.

Apply the golden rule in the exercise of a function that the law requires you to perform; a law that is a relic of barbarism. Just think of the power of a judge to send a man or woman to

*Abstract from the address of Hon. F. D. M. Davis, given at the meeting of the Ionia County Medical Association, Oct. 15, 1903.

that hell of despair called an asylum upon the testimony of two physicians who are called into the jail, or perhaps into the judge's office, and after twenty minutes or half an hour of trying to talk with the patient and listening to what interested parties may say as to peculiar actions, pronounce him insane and the patient goes by law to a living grave without a ray of hope. If the mind is not already gone the last glimmering of reason must necessarily soon leave the patient in the region of eternal darkness.

I do not criticise the doctor. He has acted upon the information he has at hand and found the best conclusion he can in the time limited, but I do denounce the system that will enable any relative or man to get rid of another, to get their property or for other corrupt reasons, to send the victim to an asylum in such a manner. It ought to be only upon the judgment of a jury of twelve men, upon the testimony of men or women thoroughly examined as to the actions and conduct of the alleged insane, and upon the testimony of physicians who have had days and weeks of opportunity to examine them. The murderer who is known to have killed his victim with premeditation is entitled to those safeguards. Why should not the person who stands charged with no wrong?

The physicians are the greatest lever in bringing about a reform in the laws of this state upon this question. You owe to yourself, your friends, your county and state this duty. I hope you may see it as I do, that you may feel it as I have felt it, when I have seen the poor wretches beg for a chance to demonstrate their sanity.

ISABELLA COUNTY.

The annual meeting of the Isabella County Medical Society was held October 29, at Mt. Pleasant. President, P. E. Richmond, of Mt. Pleasant, was in the chair. There were present, Jas. McEntee, C. D. Pullen, A. T. Getchell, C. M. Baskerville, Mt. Pleasant; D. M. King, F. Taylor, H. V. Abbott, Shepherd, and C. J. Abbott, Winn.

The secretary's report showed a charter membership of twelve. Since then (March, 1903) four others have been added, making a total of 16.

The delegate to the State Society (Dr. McEntee) made his report. It described a very successful, pleasant and enthusiastic meeting, and foretold a very bright future for the society.

President's address, "A Review of the Past Work of the Society," P. E. Richmond.

ELECTION OF OFFICERS.

President—Jas. McEntee, Mt. Pleasant.

Vice-President—D. M. King, Shepherd.

Sec. and Treas.—C. M. Baskerville, Mt. Pleasant.

Board of Directors—P. E. Richmond, Mt. Pleasant, 3 years; B. T. Johnston, Rosebush, 2 years; H. V. Abbott, Shepherd, 1 year.

An interesting discussion was brought up by C. D. Pullen on the treatment of typhoid fever with reference to the use of acetozone. The final conclusion being that while it greatly mitigated the severity, it apparently had no effect upon the course of the disease. It was thought that the free use of water, which the treatment entailed, also had a very favorable effect.

The subject "Should the Clergy Pay for Medical Treatment?" was then informally discussed for some time, after which the society adjourned to the Bennett House for supper.

The next meeting (in January) will be held at Shepherd.

C. M. BASKERVILLE, Sec'y.

LENAWEE COUNTY.

The regular meeting of the Lenawee County Medical Society was held at Adrian, October 13.

President C. Kirkpatrick being absent, Samuel Catlin of Tecumseh presided.

After the regular routine of business, an interesting paper was read by Dr. Eccles of Blissfield, on "Acute Diarrhoeas of Children and their Treatment." This was one of the most interesting and most discussed paper of any that has been presented to the society.

A paper by J. C. Johnson, of Adrian, on "Diagnosis and Treatment of Smallpox." The doctor has had considerable experience in smallpox and gave a very interesting paper.

Lenawee County now has 30 members, and the prospects for next year are good, as we are now getting thoroughly organized. We expect our next meeting will be held at Blissfield, and the Blissfield doctors are good entertainers and good hustlers for the good of Lenawee County Medical Society.

D. L. TREAT, Sec'y.

ACUTE DIARRHOEAS OF CHILDREN AND THEIR TREATMENT.

R. MACKLIN ECCLES, BLISSFIELD.

In no class of cases is the physician at such a loss to know just what to do to relieve the little ones suffering from the acute diarrhoea incident to childhood. The object of this paper is to get more light upon the subject, one in which I am deeply interested. For convenience we will offer the following divisions of the acute diarrhoea:

Infectious—I. Acute mycotic (acute gastro-in-

testinal infection); 2. cholera infantum; 3. ileo-colitis.

Non-Infectious.—1. Mechanical; 2. irritative; 3. nervous; 4. eliminative.

I shall refer to each in a few words.

(1.) Mechanical results from the infection of foreign bodies or food stuffs, which from their character and their unsuitability to the feeble digestion of the infant act as mere foreign bodies. By directing blood and nervous energy to the intestines in the absence of absorption, this material then produces diarrhœa until nature or a purgative empties the intestines.

The diagnosis in this condition is easily determined from the history, and treatment, plain—get rid of the offending material by a cathartic, preferably, oleum ricini.

(2.) Irritative. The mechanical merges imperceptibility into the irritative where such irritating substance as the organic acids of fruit or their seeds or various drugs are added. In this condition diagnosis is made from the history as above stated and treatment should be of a mild bland nature, avoiding cathartics.

(3.) Nervous diarrhœa forms a large and important group of cases. The process of dentition is probably an irritation which leads to diarrhœa by reflex action. There certainly are diarrhœas which appear with the onset of dentition, persist in spite of ordinary treatment and cease on the eruption of the teeth. Diagnosis in these cases is easily determined. If examination of the gums reveals them swollen and if we find the tongue clean, with no history of vomiting, and a rise of temperature, we may reasonably be certain the trouble arises from dentition.

Fright and surprise may cause slight temporary diarrhœa. Fatigue arrests digestion and so causes diarrhœa. Cold, acting through nervous and vasomotor mechanism, and in the same way extreme heat, is the all important cause of summer diarrhœa.

(4.) Eliminative diarrhœa occurs in cases having an inefficiency of excretory organs other than the intestines or toxæmias of any kind. Renal insufficiency and diarrhœa met in acute infectious fevers are of this nature.

(II.) Infectious diarrhœa, acute mycotic or acute gastro-enteric infection. This is the great summer trouble of infants, occurring as regularly as the heat of the summer. In this form bacteria or their toxins make their way into the general circulation making a grave systemic intoxication. Putrefaction produces the toxic material which becomes absorbed.

The exciting cause is the direct introduction into the alimentary tract of infection. Feeding in-

fant's upon cow's milk, which has been brought from a distance and kept perhaps in hot weather and dusty cites, provides the ideal condition for infection.

Predisposing causes are age (from birth to two years), general feebleness from whatever cause and bad hygienic surroundings.

Symptoms.—The symptoms may in mild cases be those of the previous groups slowly and gradually exaggerated and prolonged. Time is often lost by parents thinking the slight diarrhœa of but little account until systemic infection takes place, which we recognize by the stools becoming more frequent, fever, restlessness, rapid pulse, beginning palor and loss of weight. Some cases are mycotic from the onset, and violent vomiting, high fever, stupor, delirium, or convulsions may usher in the attack. Increasing diarrhœa soon appears and rapidly leads to the usual signs of exhaustion of the fluids of the body, as thirst, dry tongue and skin, sunken eyes and fontanels. Puny infants succumb in a few days, often hours in spite of treatment.

Pathology.—Stools rapidly become fluid and bulky, containing undigested food particles. At the onset the stools are of acid reaction, microscopical food particles are found, epithelial cells, scanty leucocytes and hosts of bacteria. In the lower part of the small bowels and in the colon lesions are found. The upper part of the small bowel generally empty and mucous membrane normal, gases often found in the colon, Peyer's patches are congested and swollen.

(2.) Cholera infantum, the second of the infectious diarrhœas, is similar to the gastro-enteric infection just described, only in a more aggravated form. The discharges from the bowels are more choleric in form, accompanied with grave depressions of the heart, the nerve centers and of the nervous system, generally. Twenty-four hours will very frequently prove fatal. The patient shows extreme collapse, high fever, clammy skin, and thready pulse as in cholera. Patients who do recover often lapse into ileo-colitis. I have a little patient now under treatment that I found with a temperature of 107° a few weeks ago, with all the symptoms of cholera infantum. She has lapsed into ileo-colitis. Fortunately only about 2% of cases are cholera infantum.

(3.) Acute ileo-colitis, or dysentery. In this group we place those cases which show a pathological process more advanced than mere congestion with exaggerated function (mucous production) and degeneration (shedding of cells) of the epithetial lining of the intestine. We now find all grades from a slight superficial abrasion

to large deep ulcers, with undermined edges, involving perhaps all coats of the bowel.

Pathology, the streptococcus is present, the mildest form is inflammatory, a more advanced stage is catarrhal ulceration quite extensive but not deep. Follicular ulceration is the commonest form, several small ulcerations being present. Membranous is the most virulent, but fortunately rare.

Symptoms. In the cases due to inflammatory infiltration the onset is sudden though the first twenty-four hours may be taken up by symptoms of mere indigestion, pain, vomiting and repeated stools. Later the old symptoms appear, frequent and small stools consisting mostly of blood-streaked mucus passed with great pain and tenesmus, threatening prolapse of the rectum. The motions generally become dark brown in color and tenderness is elicited over the colon. High temperature gradually subsides while prostration slowly increases. Symptoms remain severe a week usually. The first improvement in the stools is the disappearance of blood, then the frequency and tenesmus diminish, while the mucus remains for a week. In catarrhal ulceration all the symptoms are more severe.

The most virulent form and that which they are undoubtedly having in and about Bowling Green at the present time, in which nearly every case dies, the membranous inflammation produces a sudden severe onset of symptoms with vomiting, high fever and fluid stools, temperature high at onset from 102-5°, stools show more blood and pieces of pseudo-membrane are to be looked for.

Treatment. In all cases of summer diarrhoea fresh air is of greatest importance. Keep patient out of doors as much as possible; when this is impossible, keep sick room cool, airy and not too bright. Quietness is essential as the little ones are frequently highly nervous and irritable. Handle your patient as little as possible. Clothe the patient in light material and arranged so as to be easily removed should it become soiled.

Keep sick room scrupulously clean. Reduce the temperature by cold bathing, which not only reduces the temperature, but allays restlessness. I am in the habit of applying a cloth wrung out of cold water and applied to the body from axilla to knees frequently sprinkling on cold water so as to avoid fright to child and applying so frequently, at the same time keeping the hot water bottle at the feet. Evaporation is increased by fanning briskly while it is in the pack. I keep the patient in the pack from 15 minutes to an hour, and soon as temperature is sufficiently reduced, I remove the pack and put on dry clothing.

When the temperature reaches 102° or above, I frequently employ the bath tub, submerging the child all except the head, and leave in water from 10 to 20 minutes, having the water about 100° first and gradually cooling it to 80° by the addition of ice.

In all cases I discontinue the milk diet, in fact any food for several hours, because at the onset of acute diarrhoea digestion and assimilation are practically arrested and food, instead of assisting the little patient, works harm. For the first 24 hours I give boiled water with a pinch of salt added and give this at regular intervals, say every hour, giving one ounce, in order to excite as little gastro-enteric irritation as possible.

After giving the hot water treatment for 24 hours, I begin, if there be gas and stools offensive, giving some of the farinaceous foods. I am partial to rice water, cooking the rice three hours and adding lime water to it; of course oatmeal, tapico, sago or corn starch might do equally as well. I give one-half the quantity the child has been in the habit of taking and at regular intervals. When the stools are not offensive and there is but little gas present, I give the albuminous foods, such as albumen water and liquid peptenoids. In giving the albuminous foods, have them well diluted and as they do not keep well, they should be frequently prepared. Albumen water is best prepared by squeezing the white of one egg through sterilized gauze into a teacupful of boiled cold water, add to this a little salt and a quantity of sugar and, when necessary, a teaspoonful of brandy. The juice of rare beef expressed by means of a meat press and diluted one part to 10 of water makes an excellent diet in some cases and the liquid peptonoids 1 to 10 are fine.

Do not return to a milk diet until several days after the stools have become normal. Begin it by adding one teaspoonful of cream to the rice water. If this gives no distress, gradually increase it. For several weeks, yes months in some cases, you will have to be guarded in diet. Protect the abdomen of the little one with a flannel binder, as sudden changes of temperature are to be avoided. Forbid potatoes, corn, tomatoes and all kinds of fruit.

Medicinal. Empty the stomach if the initial vomiting has not cleaned it. This is best done by washing, but if impossible, I do this: Give large draughts of water and excite vomiting by tickling the fauces. Empty the colon by enemas and the small intestines with a cathartic, preferably, castor oil 3i to child under 6 months of age, 3ii for one year old and 3i for over three years. If vomiting is a marked initial symptom calomel

should be employed. I usually give $\frac{1}{4}$ grain tablet triturates every hour up to 8 doses, or until the characteristic green stools are seen. If motions occur with great frequency and are fluid, all purgatives should be avoided, stomach washing and colon irrigation taking their place. Wash the stomach once, but the colon every two hours.

The remedy which has been in greatest favor for several years is bismuth subnitrate, given in large doses, but from my own experience I have obtained better results from a combination of the antiseptics, a favorite prescription being:

Zinc sulphocorbulate	1-10 gr.
Bismuth salicylate	1 gr.
Salol	1-5 gr.
Pulv. pepsin	1-2 gr.
Oleum Gaultheria	2 s.

The Columbus Pharmacal Co. put this combination on the market and I have used it quite extensively this season with excellent results.

Arsenite of copper in $\frac{1}{200}$ gr. doses for a child one year old, every three hours, is an excellent preparation after the fever has subsided and the stools lost their offensiveness. Where the stools are acid and make the buttocks sore, I give lime water or sodæ bicarb., also chalk mixture. Do not give opiates unless pain is severe, and then give alone, not in combination with the diarrhœa mixture. Tinct. opii camph. is the best preparation.

Cocaine suppositories from $\frac{1}{4}$ to 1 gr. are best to relieve tenesmus.

Now, gentlemen, the above line of treatment applies to most of our acute diarrhœas of children, but in cholera infantum the condition of intoxication is so great as to demand the most urgent and active treatment. In this condition, first clear the stomach and colon as indicated above by lavage and irrigation, as the absorptive processes are at a standstill in the stomach and intestines. Hypodermic medication must be relied upon to control the toxins of the heart and nervous system. Morphine $\frac{1}{100}$, and atropine $\frac{1}{800}$, may be given to a child one year old and repeated every hour until desired results are obtained.

Intracellular injection of normal salt solution is indicated to replace the watery drain. One-half pint may be injected into cellular tissue of abdomen, buttocks or thighs.

Keep temperature down by means of cold bath. Apply ice cap to head and irrigate colon with ice water. Stimulants hypodermically if vomiting is severe; whiskey, ether or camphor may be used.

MACOMB COUNTY.

The meeting of the Macomb County Medical Society was held at Lenox, October 29. Dr.

Parisot, Mt. Clemens, read a paper on "Abortion, Its Practice." Dr. Parkin, Romeo, read a paper on "Otitis Media Chronica."

JOSEPH M. CRAMAN, Sec'y.

OTITIS MEDIA PURULENTA.*

R. L. PARKIN, ROMEO.

These are cases in which a former purulent inflammation has resulted in a permanent destruction of some of the tympanic structures.

The discharge has ceased and we are called upon to relieve symptoms due to certain changes which have occurred in the tympanum from adhesions or results of the purulent inflammation.

We find conditions following an acute or sub-acute attack, viz: Discharge, a permanent feature, especially in children and usually following one of the exanthemata. Pain is not so prominent a feature although in a circumscribed inflammation of the external canal, due to infection, we may have intense pain or, if the upper part of the cavity is affected, great prostration and rapid rise of temperature may develop with but little discharge. Pain may be spread over the whole temporal region and not localized. The function of the organ may be but slightly impaired.

In the chronic cases the symptoms to which these changes give rise consist usually in an impairment of function of the organ to a more or less extent.

Impairment of hearing is less marked following purulent inflammation than where it occurs from a non-suppurative inflammation. Where a suppurative inflammation has existed for a length of time a condensing of the mastoid often occurs. The mastoid becomes the seat of intense pain, constant or in paroxysms, and yet there may be no evidence of acute inflammation of the mastoid or middle ear.

Treatment.—Cleanliness in any case is necessary. If in spite of treatment the discharge continues, we are warranted in the supposition that the osseous structures have become involved and its removal only can give relief. When the more acute symptoms have passed away and discharge remains, irrigation, followed by installations of mild metallic astringent, often hastens resolution. In sufflations in slight discharges. Attention to the upper air passages is of the greatest importance as it guards against many attacks and prevents recurrent attacks.

If the upper part of the tympanic cavity is the seat of the process, first relieve the pain, abort the local condition, or, if too late, evacuate.

*Abstract of paper read at meeting of the Macomb County Medical Society, at Richmond, Oct. 29th.

The internal use of analgesics is contraindicated after the first 24 hours, as they often mask the symptoms. Ice coil should not be persisted in for more than 48 hours. Where an early mastoid operation is performed, we avoid a rapid extension and destruction, and the period of convalescence is greatly shortened, hence recurrence is seldom.

Opening of the drum membrane for drainage is often successful but yet not advisable, due to possible infection.

In the chronic form of cases when the changes are that of hypertrophic conditions producing adhesions between the various members of the middle ear, thickening of the drum membrane with more or less destruction or chronic congestion of the lining membrane of the middle ear. The treatment must be directed to each individual necessity.

The snare, knife, syringe or curette is often the means of great relief and permanent cure. Where the conditions exist in one ear the effect upon the organ of the opposite should be carefully considered.

MARQUETTE COUNTY.

The fall meeting of the Marquette County Medical Society was held at Ishpeming, October 13th. It was the most enthusiastic meeting held up to date. Most all the members were present. Owing to the large amount of official business transacted, only one paper was read.—“Diabetes,” by H. W. Sheldon, Negaunee. Two cases of exophthalmic goitre were presented by the staff of the Ishpeming Hospital.

H. J. HORNBOKEN, Sec’y.

MECOSTA COUNTY.

The annual meeting of the Mecosta County Medical Society was held at Big Rapids, October 23. Guests were present from Grand Rapids and Reed City, and interesting papers were presented by Schuyler C. Graves, president of the Kent County Medical Society, and by J. L. Burkhardt, of Grand Rapids, who has but recently returned from army service in the Philippines. The Society was entertained at a complimentary luncheon at the Northern Hotel by druggists C. H. Milner and Geo. F. Fairman. Twenty-four were present at luncheon, and nearly all responded to toasts before the close of the evening. It was by far the most pleasant and profitable meeting this Society has ever held. Officers were elected as follows:

President, B. F. Brown, Morley.

Vice-President, W. S. Whitney, Big Rapids.

Sec. and Treas., A. A. Spoor, Big Rapids.

W. T. DODGE, Councilor, 11th District.

O. M., C. O., R. O. COUNTIES.

The O. M., C. O., R. O. Counties Medical Society held its regular meeting at Grayling, October 22, 1903.

This was one of the best meetings we have had since our organization, it differing somewhat as regards program of other meetings.

No papers were read, but instead clinical cases were brought in and diagnoses made and treatments given by a number of physicians assigned to each case, each physician making his diagnosis and mapping out his treatment independent of the others, after which the several diagnoses and treatments were brought before the society and carefully discussed.

After the discussion the regular business of the society was proceeded with.

A. J. Petter, of West Branch, was elected to membership.

The next regular meeting will be held in Fred-eric on the 16th of December.

After the meeting closed the society was entertained at the home of Dr. Stanley Insley by Mrs. Insley and Mrs. Woodworth.

CLIFFORD C. CURNALIA, Sec’y.

WAYNE COUNTY.

Meeting of the section on Gynecology and Obstetrics, October 19, 1903.

W. P. Manton read a paper on “Mischievous Midwifery,” which brought forth much discussion. Dr. Manton touched on many points the neglect of which cause disaster, and spoke of the common faults, which are of everyday occurrence. The subject was divided into (1) Pregnancy; (2) Delivery; (3) Puerperium.

1. Pregnancy is a physiological process, but the practitioner is too apt to be indifferent and not give attention to the little details which add to the comfort of the patient and the safety of the confinement. Of great importance is a *monthly* examination of the urine, for only by a knowledge of its condition can we know when danger threatens. From 5 to 10 per cent. of pregnant women have albumen in the urine, though a larger number will show it, unless care be taken to guard against the admixture of vaginal secretions. To determine the significance of the albumen, a microscopic examination for cast is essential. Urea determinations are most important. When the urea is diminished and eclampsia is threatened interference with the pregnancy should not be too long delayed.

Diet, clothing, exercise and rest are of great importance. A properly fitting bandage may re-

lieve pain, when an ovary is pressed upon, or the uterus is too far forward. In cases of hydramnios, one should bring about copious watery evacuations. The continued use of hypnotics is pernicious, the author using them only when absolutely necessary, relying on a regulation of the diet and exercise. Chloreton is to be recommended, when a hypnotic is necessary. Constipation must be guarded against.

2. During the first stage of labor, care must be exercised in order that the parturient may not arrive at the second stage exhausted. Chloral hydrate or morphia may be used to obtain periods of rest. With a normal pelvis, prolongation of the second stage must be due to one of three factors: (1) Rigidity; (2) fetal deformity; (3) short cord. In either instance, the use of forceps is justifiable, but before they are applied, an exact diagnosis of the position must be made. No more force than can be exercised by the forearm is proper, and the handles should be separated, in the intervals between the intermittent traction. The greater the experience of the accoucheur, the more frequently forceps are applied.

The prevention of laceration by support of the perineum is recommended, but the excellent little operation of episiotomy is too seldom used.

After the head is born, do not pull on the neck, but wait for uterine contractions before attempting to deliver the shoulders. Birth palsies occur from pressure on the neck, over-extension of the arms or pressure in the axilla.

3. The puerperium represents a condition intermediate between health and disease. Attention should be given to cleanliness, the prevention of hemorrhage and absolute rest. It is bad practice to give vaginal douches, either before or after labor, as they wash away the normal bacteriocidal secretions. In case of infection, a curettage followed by *one* douche is indicated.

In opening the discussion, **Dr. Nathan Jenks** laid stress on the importance of frequent urinary examinations, and said that in his experience, uterine contractions cannot be controlled with morphia, chloral hydrate being better.

Dr. McGuire spoke of the difficulty in getting patients to bring specimens of urine. He believes in a thorough cleansing of the vagina, in order that it may be in condition for repair, in case of laceration.

Dr. Chapoton emphasized the importance of determinations of urinary specific gravity, considering them of more importance than the tests for albumen. The latter, however, should be made.

Dr. Sherrill believes in douches, provided they are given early, and finds a vaginal suppository of iodoform before delivery of value.

Dr. Harrison D. Jenks spoke of the use of chloroform and chloral hydrate in the first stage and discussed the length of time one should wait before applying forceps.

Meeting October 22, 1903.

THE ESSENTIAL NATURE OF REFLEX ACTS AND INSTINCTS.

A. W. IVES, DETROIT.

So much that is new and revolutionary in the field of nervous physiology has been discovered by Professor Jacques Loeb, late of the Chicago University, and his school, that with a few ideas of my own I shall endeavor to give it to the society.

They have succeeded in giving nervous physiology a real, a physical basis, by substituting actual experiments and physiologic processes for the confusing terms and logic of the metaphysicians.

The complicated phenomena of nervous activity, as of other activities, depend upon an analysis by which they are resolved into their simplest elementary components. Those of the nervous systems seem to resolve themselves into a class of simple processes called reflexes.

A reflex act has been defined as the immediate unreasoning response to a stimulus.

It is, however, only called reflex when a muscle, or group of muscles, or an organ responds; when the animal as a whole responds, it is called "instinct." There is manifestly, then, no *essential* difference between the two.

Reflex acts, and instincts are so well planned, so purposeful, that there has always been a tendency, avowed or inferred, to give intelligence some part in the role either in devising or carrying out the act.

If it can be shown that these actions are common to animals with and without a nervous system, in fact are found in plant life as well, then it must remove the supposed mysterious action of the ganglionic nerve cell and make it a property common to protoplasm in general.

All, then, that is necessary to reflexion is irritability and conductivity. In low forms of life the tissue stimulated is not only irritable and conductile but contractile as well. No nerves therefore are here necessary. In higher forms of life the part stimulated and the part that acts are so far removed from each other that some connection must be had between the two and the nerves and cells form the only protoplasmic con-

nection. If a lower animal reacts to a stimulus as a rational man would under the same circumstances, it is asserted we are dealing with phenomena of consciousness and intelligence. Consciousness has been ascribed even to the spinal cord, because its reflexes are purposeful.

Loeb says on this subject: "We can dispose of this view by the mere fact that the phenomena of embryological development and of organization in general show a degree of purposefulness which surpasses that of any reflex or instinctive, or conscious act, yet no one considers the act of development to be dependent on consciousness."

In its simplest form the movement of the amoeba when stimulated is a reflex act; it responds to a stimulus; in its very broadest sense every action of ours, whether the immediate, unreasoning response to a stimulus, or a delayed well thought out action is reflex in character; it is performed as it is now, because of stimuli, more or less varied and numerous, received in the past.

These acts are called intelligent and the result of reason, as they surely are, but on the other hand there is no ground for removing them from the category of reflex acts.

Everyone now accepts the theory of evolution; in doing so he tacitly admits that the differences between the structure and actions of the lowest and highest forms of animal life, great as these differences now are, are differences of degree and not of kind; also we find even in vegetable life acts which resemble in every essential acts of animals, that is purposeful reflex acts. The tendrils of many climbing plants float about in the breeze until they come in contact with the rod or wire put there for their support, when they immediately commence to bend toward the point of contact or stimulation, continuing to thus bend until they have encircled it several times, thus forming a firm support for the plant; a similar act performed by an animal is called instinct. Now it is explained in both plant and animal as a reflex act caused by a stereotropic stimulus. Certain plants turn their leaves and bend their tips towards the light, a heliotropic reflex. It is forced to grow in that direction. When an animal, as the moth or June-fly, is oriented towards the light it is considered a special instinct, even tho' the animal so flies to its own destruction. It has been shown that in the case of the moth as of the plant it is due to positive heliotropism. There is no more "curiosity" or "love" of the light in the case of the animal than of the plant.

It has been proved that when the light strikes

the moth on one side, those muscles which turn the head towards the light become more active than those of the opposite side, impelling the animal towards the light. As soon as the animal has this orientation, being symmetrical, both sides are equally stimulated and it flies, is *forced*, directly at the point of stimulus, and moving rapidly as it does, it gets into the flame before the heat of the flame has time to check it. Nerves to carry the impulses to the muscles are necessary only as forming a protoplasmic conduction between the point of stimulation and muscles which move the animal.

Certain low forms of life with rudimentary nervous systems, respond to stimuli with or without their nerve centers, the difference being that the normal animal responds more quickly and to a slighter stimulus.

The excised iris responds sluggishly to light, proving in both these cases that nervous tissue is not necessary to these reflex acts.

The tentacles of actinians, which can not be said to possess any nervous system, can differentiate between a piece of cray fish meat and a bit of blotting paper soaked in sea water. To us there is no difference in taste; the former it will put into its oral opening, the latter it rejects. A single detached tentacle behaves the same, proving that the reaction is determined by the irritability and contractibility of the tentacles themselves, and that the reaction is hemiotropic. If placed head down in a test tube of sea-water, this little animal soon rights itself, beginning by bending its pedal extremity downward. This is a geotropic or gravitation reaction. The roots of all plants are positively geotropic, the stems negatively so. There is no reason to believe the processes are not the same in both plant and animal, or that even in higher forms of life this tendency to give their bodies a certain orientation in space is not due to essentially the same processes. The star fish when placed on its back soon rights itself. A single detached arm, without any nerve cells, can do the same, proving that this act, as in the actinians, is due to properties inherent to its protoplasm, and not dependent on its nervous system.

An earth worm, whose rudimentary brain has been removed, travels off as though nothing had happened. If the wounded ends of an earth worm which has been cut in two be tied with a thread, the movements of the hind end are perfectly coordinated with those of the fore end, proving that the impulse causing its crawling movements must be the stretching of its skin, and that the nervous connection is not necessary. Decapitated crickets and bees, after recovery from shock, are able to

walk around, make attempts at flying and are able to pair. When placed on their backs they can right themselves; while bees whose head and body have been cut away perform the stinging act perfectly when their abdomen is stimulated. The fly has received great credit for showing enough intelligence to lay its eggs on meat where they will hatch and feed and not on fat where they would die. A decapitated fly will do the same. It is stimulated chemically to do this by some aroma arising from the decaying meat, chemiotropism, and intelligence plays no part in the act. It does not do this because it *will* but because it *must*.

Another interesting feature concerning instincts is, that certain of them in different animals can be controlled or altered by simple means. Many of the lower marine animals, which naturally are negatively heliotropic, can be forced toward the light, either by lowering slightly the temperature of the sea water in which they live or by increasing its concentration, whereby the cells of the animals lose water. This instinct can be reversed by reversing the conditions. Plant lice can be made to exist in the winged or wingless state. Wings can be caused to grow at any time by lowering the temperature or by letting the plant dry out, changing in each case somewhat the condition of their protoplasm.

Thus, not only can the phenomena of growth and nutrition be controlled, but the instincts also, indicating that there is a common basis for both classes of phenomena, which common basis is the physical and chemical character of their protoplasm.

It is a generally accepted belief that secretion of milk by the mammary glands during and after pregnancy is due to nervous stimuli passing from the uterus to these glands. Goltz severed the spinal cord in the pectoral region of a female dog which afterwards became pregnant. At the proper time the glands in front and behind the place of section secreted milk equally well. The startling experiment has recently been performed of transplanting the mammary gland of a guinea-pig from its normal location to its ear. After it had become well established there the pig became pregnant, when the gland on the ear secreted along with those left in their normal situation. The only possible conclusion to be drawn from this case is that some changes in the blood or lymph must be the cause of this secretion, changes caused by the changes going on in the maternal organism.

Goltz has made a remarkable discovery which seems to confirm the opinion that even in the higher vertebrates, the instincts observed in the

female dog at time of giving birth to young, such as the biting off of the navel cord, licking its young, its affection toward them, and increased ferocity towards strangers, belong to the same category. He found that these instincts persist even though the spinal cord long before this time had been severed so high up that no stimuli from the uterus could reach the brain. It is probable that as in the case of secretion from the abnormally placed lacteal gland of the guinea pig, that certain substances are formed during this period, which influence the character of the animal and set free these inherited instincts. All text books and physicians have noted not only the nausea accompanying pregnancy in woman, but also, generally a more or less pronounced change in her temperament and temper, carried at times to the point of temporary insanity. Is it not, in the light of our recent knowledge, probable that all these changes of her body and mind are due to altered composition of her blood, caused by the great amount of nutritious matter taken from and of excrementitious material thrown into her blood from the rapidly growing foetus? Not only can substances taken into the body from without, such as alcohol, tobacco, morphine, etc., profoundly influence the actions and reactions of human beings, but equally so do abnormal amounts of internal secretions, as the irritability of glycosuria, the idiocy when the secretion of the thyroid gland is lacking; also the profound results, over body and mind, of asexualization if performed early, depriving the blood and organism of the internal secretion from the testes or ovaries, or acromegaly due to impaired function of the pituitary body.

We must agree with Loeb, that it is perhaps not impossible that those mental diseases which are hereditary are in reality, chemical diseases, caused by poisons which are formed in the body and fed to sperm or germ cell before impregnation.

The discussion which followed was most interesting and was participated in by David Inglis, H. A. Wright, J. E. Emerson, and C. W. Hitchcock.

L. J. Hirschman exhibited a specimen of stricture of the rectum, obtained by resection. The patient had suffered for four years and one year ago had been ineffectually operated upon, the resulting scar tissue contributing to the formation of the stricture.

Max Ballin showed a large vegetation on the tricuspid valve found at autopsy in a man, aged 61, on whom a gastro-enterostomy had been done, for the relief of a pyloric obstruction. Death resulted from septic endocarditis.

EYE, EAR, NOSE AND THROAT SECTION, OCT. 26, 1903.

Guy H. McFall read a paper on Rhinoliths. While foreign substances, introduced into the nose are frequently seen, cases of true Rhinoliths, formed *de novo* from secretions and calcareous deposits, are rare. They have usually been found in the middle meatus and often conform to the shape of the nasal passage. While usually small, Scheppegrell, of New Orleans, has reported one weighing 24½ grains, and Roe, of Rochester, one of 40 grains. Usually they can be readily removed.

Dr. McFall's case was that of a girl, aged 19, who complained of being unable to breathe through the nose and of distress at night. No history of ever placing anything in the nose; considerable discharge; no epistaxis. Examination showed granular pharyngitis and the right nares plugged by a dark mass, extending from the floor upward to the middle meatus, and completely filling this space, except above, where there was much discharge. It was firmly attached to the septum and inferior turbinate, and in attempting to remove it, two small pieces were broken off. Under cocaine anesthesia, the mass was carefully separated with a thin blunt probe, and removed. The rhinolith weighed 16½ grains. Since the operation, the patient has complained of pain in the throat, due, the author thinks, to the right side of the nose performing its proper function, to which the throat was unaccustomed.

P. M. Hickey, by means of the projection apparatus, demonstrated the microscopical changes produced by some of the more common diseases of the upper air passages.

General meeting, Oct. 29, 1903.

A. E. Carrier gave a paper on "Inherited Syphilis." In the inherited form of syphilis the disease itself is passed directly to the child from either or both parents. In paternal inheritance, which is the most common, the disease is usually less severe than when from the mother, for time is required for the mother to become leucic, and the child therefore exposed to the poison for a shorter period. On the other hand, when the mother is syphilitic at the time of conception, the child is exposed during the whole period of gestation. The most severe cases are those inherited from both parents.

The activity of the inherited poison diminishes with the age of the disease in the parent or parents, the effect on the child becoming less severe with each subsequent pregnancy, a living child often following repeated abortions, or a healthy offspring several diseased ones. That healthy

children are born of syphilitic parents may be explained by either of two suppositions:

(1) The result of treatment; (2) conception at a time when the disease is latent.

It is most important that we have a clear idea of the period of time that the disease can be transmitted, in order that advice may be given in regard to marriage, the question of how early it can be transmitted depends upon the time when it becomes constitutional, it certainly being not later than the first appearance of the chancre, and probably even earlier. The author would establish a limit of five years after the chancre, before marriage is allowed, divided as follows:

(1) A 2 years' continuous treatment with mercury.

(2) A 6 months' treatment with mercury and iodides.

(3) An intermission of 6 months without treatment.

(4) A 1 year intermittent treatment with iodides.

(5) An absolute freedom from any syphilitic manifestation for 1 year.

Frequency. Sixty-five reporters from Michigan give 30 inherited cases out of 245. Allowing 3 abortions for every child born alive and supposing the death rate to be 70 per cent. of the 30, we have 113 deaths out of 245 cases.

Inherited syphilis is just as contagious as the acquired form. In most of the cases the lesions appear within 3 months after birth. The earlier they appear, the more severe is the case. The period of second dentition and of puberty are times when the lesions are liable to appear.

The prophylaxis of inherited syphilis is that of the required form plus measures to prevent conception. When marriage has taken place, a frank confession should be made, exposure avoided, and the wife put under treatment. If conception has occurred, the treatment of the mother should begin at once, care being taken to avoid intestinal or gastric disturbances. If at birth the child shows lesions, begin the treatment at once, if not, wait for evidence of the inheritance. On account of liability of tertiary lesions early in the inherited form, a combination of the iodides is early indicated. The treatment should be an active one at the time of the second dentition and of puberty.

In opening the discussion, **W. R. Chittick** cited cases which he had had under treatment for 8 and 15 years respectively. He believes that the length of time which should elapse before marriage is allowed, is an open question. His own rule is one year after treatment has been discontinued, no symptoms occurring.

A. P. Biddle spoke of the infrequency of inheritance to the third generation, of the importance of remembering that the liquor amnii can convey the infection, and of the facts of Colles' law. It is often difficult to tell whether a babe of 5 or 6 months has acquired or inherited syphilis. Cutaneous lesions coming on after 1 year of age speak for the acquired form, and the lesions of congenital lues are more severe than those of the acquired form. Too much stress should not be laid on "snuffles" as a sign of inherited syphilis.

F. B. Tibbals referred to the frequency of syphilis insontium, saying that recent literature gives about 25 per cent. of cases as innocently acquired. Could this be impressed upon the laity, it might be easier to pass laws putting lues into the list of contagious diseases.

Drs. Flintermann, Eugene Smith, Willis S. Anderson, Duffield, Miner and Stevens also cited cases.

PUBLICATION COMMITTEE.

REPORT OF THE LECTURER, THIRD DISTRICT.

Battle Creek, Mich., Nov. 13, 1903.

EDITOR.—It gives me great pleasure to record the fact that I visited the Eaton County Medical Society, which held its regular quarterly meeting in Grand Ledge, Mich., Thursday, Oct. 29, 1903. I do not think it has ever been my pleasure to visit a society which seemed more to realize the importance of active work, not only as a society, but as individual members, and besides showing their unity of feeling and appreciation of their medical society as an adjunct of the State Society.

In consequence of the absence of the president, Dr. Frank A. Weaver, of Charlotte, was acting president, while Dr. W. H. Rand filled the position of secretary with credit to himself and honor to the society. There was a gathering of about fifteen physicians and five new additions made to the society. Dr. William F. Breakey, president of the Michigan State Medical Society, was present and read a very instructive paper on the different phases of the disease of syphilis, and illustrated the same by some fifty or seventy-five photographs, all of which were exceedingly instructive and much enjoyed by the society.

Dr. W. H. Haughey, of Battle Creek, Mich., read a very instructive paper entitled "A Study of Some Remote Effects of Venereal Diseases, with Suggestions," which evoked considerable discussion. I read a paper on the subject of

"Diabetes," which brought forth not only a great deal of discussion, but caused many questions to be asked, showing that the society is not only alive, but progressive. In consequence of the day being consumed by these papers, as well as the routine work of the society, nothing else of importance was transacted and the society adjourned to hold its next meeting in Charlotte.

JAMES H. REED,

Lecturer, 3rd District.

EDITOR.—It is with more than usual interest I report a very delightful meeting of the St. Joseph County Medical Society, which held its monthly meeting in Centerville, Mich., Tuesday, Nov. 10, 1903. There were present at this meeting about one dozen of the members of the society, the meeting being presided over by Dr. Marden Sabine, Dr. Thomas J. Haynes, of Three Rivers, acting as secretary.

On account of the absence of Dr. John R. Williams of White Pigeon, who is secretary of the society, the routine business of the society was done away with, and Dr. W. H. Haughey, counselor of the Third District, and myself were called upon to fill the time. Dr. Haughey gave the society some very instructive lessons along the line of the business of the society and its relation to the Michigan State Medical Society, impressing upon their minds the value of our ably edited *MEDICAL JOURNAL*, as well as the necessity of promptness in the payment of all dues, and the regular form by which it should be done. As this is so well understood by the majority of the members of the State Medical Society, I simply mention it, hoping that it may do a little good in spurring up members of the County medical societies to keep themselves in line with the State Medical Society. I read a paper on the "Chemistry of Diabetes," which provoked considerable discussion and favorable comments.

I might say that it was the consensus of opinion among the members present that on and after that meeting they would have their regular meeting once in every quarter instead of monthly. After a complimentary vote of thanks to Dr. W. H. Haughey and myself the meeting adjourned.

JAMES H. REED, Lecturer, 3rd District.

REPORT OF THE MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE.

Sault Ste. Marie, Mich., Oct. 1, 1903.

To the Members of the State Board of Registration in Medicine:

I beg to submit my annual report as secretary, covering the year, October, 1902,—October, 1903:

The Board has knowledge, of course, of the amendments to the Medical Act of 1899 passed by the legislature of this year, and which became effective September 17th last. These amendments, which were passed on by the Board last October, confer upon the Board the power of raising, controlling and maintaining the standard of preliminary and medical education, and adopt what is known as the Board Universal Examination Test as the only method of obtaining a certificate of registration in the future in this state. The amendments also provide in the discipline clause methods by which licenses may be cancelled for unprofessional and dishonest conduct, the offenses involving moral turpitude, drunkenness, the drug habit, and the inserting of offensive advertisements in newspapers, by publication or otherwise. They also provide adequate punishment for fraud or perjury in connection with the obtaining or attempting to obtain a certificate of registration. Altogether the amendments placed the present Medical Act upon a plane equal at least to any medical act of the better states, and should without question prove effective in elevating not only the standard of medical practice, but also the standard of moral and ethical character in this state.

CLERICAL BOARD WORK.

The amount and character of the office work has been very much increased during the past year, the reason for which is largely chargeable to the clerical work involved in connection with the passing of the amendments through the legislature, and the coming into effect at this time of the amended act with its added scope and responsibilities. The clerical or office work involved in administering properly the new act during the coming year will not only be relatively increased but will require the secretary's almost constant time and attention.

FORMS OR BLANKS.

The preparation of forms or blanks in connection with the administration of the new act will involve a great deal of time and care, and demands technical knowledge and experience in this special work. It has been truthfully stated that proper and appropriate forms are the grand jurors in the correct and exact administration of a medical act, and my experience coincides with this view. Qualification for a certificate from a board demands certain evidence covering fitness and character, and this evidence which is furnished by the board through the media of forms or blanks should be chiefly of a corroborative and of an independent character. As an illustration, I may cite the usual form and method of a certificate

of moral and ethical character which usually forms a part of the application blank and which the applicant has had signed by three reputable practitioners. Experience proves that it is a comparatively easy matter to obtain signatures even when the applicant is unworthy if he personally solicits such signatures. A private blank which is endorsed "Confidential," sent to the signers of moral character, and in which is reported not only all the signer knows concerning the applicant, but also what he does not know, tells in many cases an entirely opposite story. In an application blank under the heading "Moral and Ethical Character," the applicant should only fill in the names of physicians to whom the board can, if necessary, refer to in a confidential manner. Blanks covering the personal collegiate history of an applicant should be distinct from the blank filled in and signed by the dean of his college in corroboration of his testimony, (and this latter blank should never reach the applicant's hands), otherwise independent and corroborative testimony cannot be had. The blanks of a large number of the state boards are very defective and it should be the aim of this board to have proper and effective blanks, consistent in every detail with the law.

EXAMINATIONS.

During the past year, owing to the fact that certificates of registration could be obtained upon the qualifications of a diploma from a recognized college, and added to this fact that those practitioners of this state who were unable to obtain re-registration had appeared before the board for examination during the past two or three years of its administration and had either passed or failed, the number of applicants for examination has considerably fallen off. Another cause for this falling off of applicants for examination may be traced to the belief prevalent in Ontario that Michigan had "legislated against the Canadians." While under the amendments it will not be possible in the absence of reciprocity to admit foreign graduates who have obtained their diplomas subsequent to September 16th last to the examinations, the present law does not affect foreign practitioners who graduated from reputable and recognized medical colleges previous to above date. Owing to the amended law which requires all applicants to take the board's examination in order to qualify for license, the number of applicants for examination in the future will be greatly increased, but only moderately so in the next four years, as all students registered in recognized Michigan colleges previous to January first of this year are exempted and can qualify

upon their diploma from such recognized Michigan colleges.

In the past four years out of an average of some five hundred certificates issued annually, two hundred and fifty, or some fifty per cent. of such certificates, have been so issued to graduates of Michigan colleges. Allowing, therefore, for Michigan graduates and taking into account the advanced requirements, and that fully fifty per cent. of those who registered without the state would not have done so if they had been required to take the state board examination, there will probably be not more than one hundred applicants yearly for examination during the next three years.

Concerning the examination itself, it has been the rule in the past to ask ten questions upon each subject listed and to allow two hours in which to write upon each paper. In order to do justice to the examination it requires nearly four days of ten hours actual writing each day. This amount of work and time is altogether too much and is not demanded by other state boards or even by the colleges. Five questions for each paper with an hour and a half in which to write on each subject would be an all-sufficient test and would cut out the night examinations. It would also lessen the burdens of the examiner fifty per cent., which in itself is a necessity in the future. It should be insisted in the future that applicants should file their applications and credentials at least two weeks previous to the examination, otherwise complications will result if a candidate takes an examination and his credentials are insufficient, which cannot be determined off-hand at the examination.

RECIPROCITY.

Since the June meeting last of the board, Maryland and Ohio have notified the board of their recognition of Michigan medical licenses; the former under Qualifications Nos. 1 and 2; the latter under Qualification No. 1. This board is reciprocating at the present time under Section 3, Subdivision 3, of the medical act, with Wisconsin, Indiana and Maryland under Qualifications Nos. 1 and 2, and with Illinois, Ohio, New Jersey and Maine under Qualification No. 1. Negotiations looking to reciprocity with other states, including Kentucky, Vermont and Texas, are pending and undoubtedly will be matured in the near future. A meeting of the American Confederation of Reciprocating, Examining and Licensing Medical Boards, of which this board is a member, will be held in St. Louis, Mo., on the 27th inst. Such well known men as Osler, Green, Billings, Reed, and Musser have stated their intention to be pres-

ent, and undoubtedly the cause of reciprocity in medical licenses will be greatly influenced by this meeting. As this confederation was originated by the Michigan board and as it has already accomplished practical things in reciprocity, your interest in its future I assume is assured.

ENFORCEMENT OF THE DISCIPLINE CLAUSE.

I have been instructed by the attorney-general as to the method of enforcing Section 6 of the Medical Act known as the "Discipline Clause." Under the law it is necessary to serve personally upon the practitioner who violates this section a formal notice signed by the secretary of the board, and it should appear that the same was by order of the State Board of Registration in Medicine. This notice cites the practitioner in question to appear before the board at some future date and should be a reasonable notice as to time. It will therefore be necessary for the board to pass an order instructing its secretary to proceed against all violators of Section 6 of the act, and for this reason I have not notified offenders to appear before the board at this meeting.

As the enforcement of the discipline clause is an important and technical matter and as there are a great many practitioners holding licenses from this board who could be charged with violation of such section, it would seem advisable for the board to hold a special meeting at Detroit some time in the beginning of the year when all violators of this section could appear before it and their cases be gone into and passed upon. Those practitioners who, previous to September 17th, the date upon which the amendments to the medical act came into effect, advertised in such a manner as to bring them within the provisions of Section 6, still continue such advertisements notwithstanding that it is a plain violation of the law.

I understand that it is their intention to fight the law upon the grounds that the board would have to exercise and possess judicial powers without any appeal from its decision in its consideration and determination of charges under such section, and that such powers granted to the board by the State Legislature is in conflict with the State constitution and is a violation of the federal constitution which forbids a State from granting to a tribunal other than a regularly organized court the final determination of a legal question. It is also contended in objection to this section that the right of appeal is essential to due process of law. It is further contended that a practitioner once engaged in the practice of

medicine and having been licensed in such practice, no board has the power to take this right away, and by doing so that it is in the nature of an attempt to punish him for past offenses. All the above objections have been overruled by the United States Supreme Court in the case of Reitz vs. The Michigan State Board of Registration in Medicine.

Mr. Justice Brewer in his judgment states:

"It is objected in the present case that the Board of Registration has given authority to exercise judicial powers without any appeal from its decision. * * * That, it is contended, is the determination of a legal question which no tribunal other than a regularly organized court can be empowered to decide. The decision of the State supreme court is conclusive that the act does not conflict with the State constitution, and we know of no provision in the federal constitution which forbids a State from granting to a tribunal, whether called a court or a board of registration, the final determination of a legal question. * * * The objection that the statute attempts to confer judicial power on the board is not well founded. Many executive officers, even those who are spoken of as purely ministerial officers, act judicially in the determination of facts in the performance of their judicial duties; and in so doing they do not exercise 'judicial power' as that phrase is commonly used, and as it is used in the organic act in conferring judicial power upon specified courts. * * * The ascertainment and determination of qualifications to practice medicine by a board of competent experts appointed for that purpose is not the exercise of a power which appropriately belongs to the judicial department of the government. * * * Neither is the right of appeal essential to due process of law. In nearly every State are statutes giving in criminal cases of a minor nature, a single trial, without any right of review. * * * It is further insisted that having once engaged in the practice and having been licensed so to do, he had a right to continue in such practice, and that this practice was in the nature of an ex post facto law. The statute does not attempt to punish him for any past offenses, and in the most extreme view can only be considered as requiring continuing evidence of his qualifications as a physician and surgeon."

Under the present medical act an important part of the qualifications demanded from physicians is moral character. I do not believe that violators of Section six will obtain the relief they expect either from the State Supreme Court or the United States Supreme Court in view of their past decisions.

FINANCIAL STATEMENT.

Appended to this report I beg to submit a summary of receipts and disbursements during the period, October 1st, 1902—October 1st, 1903:

RECEIPTS.

To fees received, Oct. 1, 1902, to Oct. 1, 1903..	\$5,653 00
To fees rec'd, approved college (492)	\$4,919 00
To fees rec'd, extmination (27)....	272 00
To fees rec'd, lithograph'd cert (379)	379 00
To fees rec'd, duplicate cert. (11)....	11.00
To fees rec'd, reciprocity (7).....	70 00
To fees rec'd, re-registration (2)....	2 00
	\$5,653 00

DISBURSEMENTS.

To disbursements, Oct. 1, 1902, to Oct. 1, 1903..	\$4,235 14
By printing and stationery.....	\$ 355 13
By postage	173 25
By express, telegraph and telephone..	44 35
By office furniture	92 52
By rent	150 00
By porter and charwoman.....	45 75
By light	20 75
By Secretary's salary	1,800 00
By traveling expenses of members...	670 25
By clerk hire	799 95
By miscellaneous	32 19

Total	\$4,214 14
By returned fees	21 00
	\$4,235 14

RECAPITULATION.

To receipts, Oct. 1, 1902 to Oct. 1, 1903.....	\$5,653 00
To disbursements, Oct. 1, 1902, to	
Oct. 1, 1903	\$4,214 00
To returned fees, Oct. 1, 1902, to	
Oct. 1, 1903	21 00
	\$4,235 14

Balance October 1, 1903.....	1,417 86
Balance October 1, 1902.....	3,075 63

Total balance October 1, 1903..... \$4,493 54

Balance October 1, 1903.....	\$4,493 54
Balance October 1, 1902.....	3,075 63

Increase of receipts over dis-	
bursments, 1902-3	\$1,417 86
	\$7,300 00

You will note that the balance October 1, 1901, was \$2,256.59; October 1, 1902, \$3,075.68, and October 1, 1903, \$4,493.54, leaving a balance of \$1,417.86 in excess of last year. Disbursements, 1901-1902, \$3,556.91; disbursements, 1902-3, \$4,214.14, allowing for increase in secretary's salary, an increase over former years of only \$57.23.

B. D. HARISON, Secretary.

RESOLUTIONS COVERING THE ADMINISTRATION OF SECTION 3, SUBDIVISION FIRST (E) OF ACT 353, LAWS OF 1903, AMENDING ACT 237, LAWS OF 1899, ADOPTED OCTOBER 14TH, 1903.

Preliminary Examination Authorized by the Board for Entrance to Recognized Medical Schools.

RESOLVED: That in harmony with and as provided for in Section 3, Subdivision First (e),

lines 14-17 inclusive, this board does hereby establish a Board of Preliminary Examiners having a membership of four members who must be reputable and qualified persons, citizens of this state, and who shall serve upon such board until their successors are appointed. This Board of Preliminary Examiners is hereby authorized by this board to conduct examinations for applicants for registration as students in approved and designated medical colleges recognized by this board, by and in accordance with the regulations of aforesaid board governing such preliminary examinations.

Regulations Governing the Conduct of Examinations by the Board of Preliminary Examiners.

(1). The examinations shall be directly in charge of one of the members of the Board of Preliminary Examiners who shall arrange and be responsible for such examination in all of its details.

(2). Examinations shall be held simultaneously in the state, at Detroit, Bay City, Grand Rapids, and Hillsdale, beginning on the second Tuesday of September of each year, and shall be conducted in writing supplemented with an oral examination if deemed necessary.

(3). The subjects for the examination shall be apportioned among the members of the board for the preparation of questions in the same. All answers to papers in any subject shall be returned for reading and grading to the member who set the questions in each subject. Members will report their findings to the Chairman of the Board of Preliminary Examiners to whom all fees collected shall be paid by the examiner collecting same, and the Chairman shall apportion such fees equally among the members of the Board of Preliminary Examiners.

(4). The scope of the examination shall harmonize with and cover the minimum standard of preliminary education adopted by the board under Section 3, Subdivision First (e), of the Amended Medical Act.

(5). A general average of 75% shall be required of all applicants for examination.

(6). Applicants failing to obtain a general average of 75% and falling below 55% in but two subjects may be conditioned in such subjects.

(7). Conditions must be removed by examination before the beginning of the second year in a medical college, otherwise the applicant will be considered as having failed in the entire examination.

(8). The fee of five dollars is authorized to be collected by the member of the board in charge

of the examination from each applicant, payable previous to each and every examination for the purpose of the remuneration of those members of the Board of Preliminary Examiners conducting the examination. An additional fee, however, will not be required from applicants removing conditions.

(9). The Board of Preliminary Examiners, through its chairman, shall issue to applicants who successfully pass such examination a certificate, the form of which shall be furnished by this board; such certificate when endorsed by the secretary of the board to be received and recognized by this board as equivalent to a diploma or certificate from a recognized high school, academy, normal school, state board of education, state board of medical examiners, college or university having a classical course.

(10). Medical students who have provisionally registered in medical colleges of this state during the college session 1903-4, and subsequent to September 16th, 1903, and who cannot meet the preliminary requirements of education demanded by Section 3, Subdivision First (e) of the Amended Medical Act, will be allowed until the beginning of the second year in a medical college in which to obtain such preliminary requirements.

RESOLVED: That the following minimum standard of preliminary education be adopted as required under Section 3, Subdivision First (e), Act 353, Laws of 1903, Amending Act 237, Laws of 1899; and no diploma or certificate issued by a high school, academy, college or university or other institution, or by a board of examiners, shall be recognized by this board subsequent to September 16th, 1903, unless, in the opinion of the board, such diploma or certificate fulfill the minimum standard of preliminary education hereby established by the board, to wit:

Minimum Standard of Preliminary Education as Required for Entrance to Medical Colleges.

GROUP I. ENGLISH LANGUAGE.

- (a) English Grammar.
- (b) Rhetoric and Composition.

GROUP II. HISTORY.

(a) History of the United States, as presented in McLaughlin's History of the American Nation, Johnston's History of the United States, or equivalent text.

(b) General History, as presented in Myer's General History, or equivalent text. Greek and Roman History or English History will be accepted as a substitute for General History.

GROUP III. MATHEMATICS.

(a) Algebra—Fundamental rules, Fractions, Simple Equations, Involution and Evolution, and Calculus of Radicals and Quadratic Equations, as given in Olney's Complete School Algebra, or Beman and Smith's Elements of Algebra, or some equivalent text.

(b) Geometry—Plane Geometry as given in Beman and Smith's Plane and Solid Geometry or equivalent text.

(c) Plane Trigonometry, as given in Wentworth's Trigonometry, or equivalent text.

GROUP IV. NATURAL SCIENCES.

(a) Physics, as presented in Carhart and Chute's Elements of Physics, or an equivalent text.

(b) General Biology, or Botany and Zoology, as presented in Sedwick and Wilson's General Biology, or Spaulding's Introduction to Botany and Kingley's Comparative Zoology.

(c) Chemistry, as presented in Freer's Elementary Chemistry, or an equivalent amount of work in Remsen's Introduction to the Study of Chemistry.

GROUP V. MODERN LANGUAGES.

(a) German or French—The applicant must be able to read French or German. This requires for one not born to one of these languages, two years of school work.

GROUP VI. CLASSICS.

(a) Latin Grammar.

(b) Prose Composition.

(c) Reading—Four books of Cæsar's Gallic War.

(d) Greek Grammar.

(e) Prose Composition.

(f) Xenophon or Homer.

Academic Work and Examination (15 Units).
Required (9 Units).

English, 3 units.

Mathematics (Algebra and Geometry), 3 units.

Latin, 2 units.

Physics, 1 unit.

Optional (6 Units).

Greek, 2 units.

French, 2 units.

German, 2 units.

English Literature, 1 unit.

History 2 units.

Chemistry, 1 unit.

Botany, 1 unit.

Zoology, 1 unit.

Biology (half a year each of Botany and Zoology), 1 unit.

Trigonometry, Plane, 1 unit.

NOTE.—Fifteen units are required. A unit equals one subject pursued for not less than four periods a week throughout a school year. Since biology is equivalent to botany and zoology it must not be counted if either or both of these subjects be counted.

RESOLVED: That the following credentials be recognized by the board as fulfilling the requirements of Section 3, Subdivision First (e) of the Amended Medical Act, for entrance to an approved and designated medical college subsequent to September 16th, 1903, provided such credentials are in harmony with and equal to the minimum standard of preliminary education as determined by this board, and that the secretary of this board shall, upon request, issue and sign a certificate of endorsement of preliminary education, provided the diploma or certificate fulfills and equals the requirements of aforesaid section and subdivision and the regulations of this board governing same:

(a) A diploma from a recognized and reputable literary college having a classical course granting the degree of Bachelor of Arts, or equivalent degree.

(The degrees which are deemed equivalent to those of Bachelor of Arts are Bachelor of Philosophy, Bachelor of Science, Doctor of Science, Bachelor of Letters, Bachelor of Classics, Civil Engineer, Doctor of Philosophy, Master of Science, Master of Arts, Doctor of Letters.)

(b) A diploma from a recognized and reputable high school, normal school or academy, having a classical course, issued after four years of study.

(c) A teacher's permanent or life certificate granted upon examination by the State Board of Education.

(d) A medical student's certificate issued upon examination by any recognized State Board of Medical Examiners.

(e) A student's certificate of examination for admission to the freshman class of a recognized literary or scientific college.

(f) A certificate issued by the Board of Preliminary Examiners in Michigan of having passed the board's minimum standard of preliminary education.

RESOLVED: That the following minimum standard of medical education be adopted as required under Section 3, Subdivision First (e), Act 353, Laws of 1903, Amending Act 237, Laws of 1899, and no medical college or other institution shall be approved and designated by the board subse-

quent to September 17, 1903, nor shall a medical diploma or certificate be recognized unless in the opinion of the board it fulfills the minimum standard of medical education hereby established by said board, to wit:

Minimum Standard of Medical Education as Required for Degree of M. B. or M. D.

SUBJECTS.	No. Hrs. Lectures Entire Course.	No. Hrs. Laboratory Entire Course.	No. Hrs. Clinics Entire Course.
Anatomy	160	...	...
Anatomy, pathological .....	...	240	...
Physiology	180	80	...
Chemistry and toxicology.....	150	200	...
Pathology	100	120	...
Histology and embryology.....	100	100	...
Practice of medicine.....	180	...	360
Surgery	150	...	360
Obstetrics	100	...	...
Gynæcology.....	100	...	120
Eye, ear, nose and throat.....	100	...	160
Therapeutics, Materia Medica...	180	...	...
Hygiene and public health.....	30	...	...
Bacteriology	50	180	...
Electro-Therapeutics	30	...	...
Dermatology	30	...	30
Medical jurisprudence	30	...	...
Mental and nervous diseases...	60	...	60
Genito-urinary and syphilis....	45	...	45
Pediatrics.....	60	...	80
Physical diagnosis	60	...	60
Pharmacology	30	24	...
Clinical microscopy .....	...	72	...
Dietetics	24	...	...

Medical course to cover a four years' graded course of seven months in each calendar year, the aggregate of which amounts to at least 120 weeks of at least thirty-six hours each, and at least forty-three months must have elapsed between the student's beginning his first course of lectures and the date of his graduation.

Other Requirements (as a Part of Above Standard) Demanded of Medical Colleges Approved and Designated by the Board.

MATRICULATION.

(1). The requirements for matriculation as set forth in Section 3, Subdivision First (e) of the Amended Medical Act of 1903, shall have been exacted since September 17, 1903.

FACULTY, EQUIPMENT, HOSPITAL AND CLINICAL FACILITIES.

(2). The possession of adequate equipment for teaching medicine and surgery in all of its branches, including modern and up-to-date laboratories, microscopes, and other necessary apparatus found in medical colleges of reputation and standing, ample clinical and hospital facilities and an active and competent faculty, as determined by this board.

LECTURES AND COURSES.

(3). A required attendance upon 80% of each of four graded courses of instruction of not less than thirty weeks, of at least thirty-six hours in each week, including holidays, in four separate years.

PERCENTAGE.

(4). An average grade of 75% on examination as a condition of graduation.

(5). The fulfilling of all published promises, requirements and claims respecting advantages to students and courses of instruction, and no college will be recognized, or if already recognized will it be continued in such recognition, which publishes in its annual announcement or catalogue or otherwise, any misrepresentations regarding the courses of the college or the facilities for instruction, or the number of students matriculated or graduated.

ADVANCED STANDING.

(6). A student or graduate in any medical college approved and designated by the board under Group I., or in any medical college, not so approved and designated, under Group IV., but whose medical course is recognized for advanced standing in accepted colleges, and who has since September 17, 1903, complied with the requirements of matriculation under clause First of Section Three and who possesses a certificate of attendance and completion of any college year in accordance with the minimum standard of medical education adopted by the board, may enter without re-examination the college year immediately following that previously completed in any recognized medical college.

NOTE.—In order to obtain recognition and listing by the board, it is necessary that colleges should report in detail to the Chairman of the Committee on Standard and Colleges, Dr. H. B. Landon, Bay City, Mich., upon authorized forms obtained from the Secretary, their requirements for admission, and the lecture and other courses throughout the entire four years, and such other information as is required by the forms. The absence of well-known and reputable colleges from the lists is probably explained by the neglect of such colleges to report their standing as required.

APPROVED AND DESIGNATED COLLEGES.

(a) RESOLVED: That the following medical colleges be approved and designated under and in harmony with Section 3, Subdivision First (e), Act 353, Laws of 1903, Amending Act 237, Laws of 1899, lines 4-11, inclusive, and lines 32-37, inclusive, which read as follows:

"Provided, however, that such applicant for examination shall have a diploma from a legally incorporated, regularly established and reputable college of medicine within the states, territories,

districts and provinces of the United States, or within any foreign nation (provided such foreign nation accord a like privilege to graduates of approved medical colleges of this state), having at least a four years' course of seven months in each calendar year, as shall be approved and designated by the Board of Registration in Medicine."

"The Board of Registration in Medicine shall, from time to time, adopt and publish a minimum standard of medical education, and no medical college shall be approved and designated by said board under this subdivision one, of section three, unless, in the opinion of the board, it conforms with such standard."

GROUP I.

Hahnemann Medical College of the Pacific, San Francisco, Cal.

Medical Department, College of Physicians and Surgeons, San Francisco, Cal.

Medical Department, University of Denver, Denver, Colorado.

Medical Department, Gross Medical College, Rocky Mountain University, Denver.

Medical Department, Yale University, New Haven, Conn.

Medical Department, Columbian University, Washington, D. C.

American Medical Missionary College, Chicago, Illinois.

Bennett College of Eclectic Medicine and Surgery, Chicago, Ill.

Chicago Homoeopathic Medical College, Chicago, Illinois.

Chicago Physio-Medical College, Chicago, merged in College of Medicine and Surgery, Chicago.

Hannemann Medical College and Hospital, Chicago, Illinois.

College Physicians and Surgeons, Chicago, Illinois.

Illinois Medical College, Chicago, Illinois.

Northwestern University Medical School, Chicago, Illinois.

Rush Medical College, Chicago, Illinois.

Medical College of Indiana, Indianapolis, Ind.

State University of Iowa, Medical Department, Iowa City, Iowa.

State University of Iowa, Homoeopathic Medical Department, Iowa City, Iowa.

Johns Hopkins University, Medical Department, Baltimore, Maryland.

College of Physicians and Surgeons, Baltimore, Maryland.

Woman's Medical College of Baltimore, Maryland.

Medical School, Harvard University, Boston, Mass.

University of Michigan, Department Medicine and Surgery, Ann Arbor.

Kentucky School of Medicine, Louisville, Ky.

Detroit College of Medicine, Detroit, Mich.

University of Michigan (Homoeopathic Med. Coll.), Ann Arbor.

Detroit Homoeopathic Medical College, Detroit.

University of Minnesota, College of Medicine and Surgery, Minneapolis.

University of Minnesota, College of Medicine and Surgery (Homoeopathic Department, Minneapolis).

Medical Department, Hamline University, Minneapolis, Minnesota.

Barnes Medical College, St. Louis, Mo.

Homoeopathic Medical College of Missouri, St. Louis, Mo.

University of Nebraska, College of Medicine, Lincoln, Neb.

Albany Medical College, Albany, N. Y.

College of Physicians and Surgeons, Columbia University, New York.

Eclectic Medical College, City of New York, N. Y.

Medical Department, Buffalo University, Buffalo, N. Y.

Medical Department, Cornell University, New York, N. Y.

University and Bellevue Hospital Medical College, New York, N. Y.

Medical College of Ohio, Cincinnati, Ohio.

Cleveland Homoeopathic Medical College, Cleveland, O.

Eclectic Medical Institute, Cincinnati, Ohio.

Pulte Medical College, Cincinnati, O.

Hahnemann Medical College and Hospital, Philadelphia, Pa.

Jefferson Medical College, Philadelphia, Pa.

Medico-Chirurgical College, Philadelphia, Pa.

Western Pennsylvania Medical College, Pittsburgh, Pa.

Medical Department, Texas University, Fort Worth, Texas.

Medical College of Virginia, Richmond, Va.

Wisconsin College of Physicians and Surgeons, Milwaukee, Wis.

(b) RESOLVED: That the following medical colleges be approved under and in harmony with Section 3, Subdivision First (e), Act 353, Laws of 1903, Amending Act 237, Laws of 1899, lines 24-27, inclusive, which read as follows:

"And provided also, that the requirement of medical education shall not apply to those grad-

uates of legally organized and reputable medical colleges approved of by said board who had graduated from such colleges previous to the date of the passage of this act."

GROUP II.

Hahnemann Hospital College of the Pacific, San Francisco, California.

College of Medicine, University of Southern California, Los Angeles, Cal.

Medical Department, College of Physicians and Surgeons, San Francisco, Cal.

University of Denver, Medical Department, Denver, Colorado, and Gross Medical College, Rocky Mountain University, Denver, Colorado, merged.

Medical Department, Yale University, New Haven, Connecticut.

Medical Department, Columbia University, Washington, D. C.

American College of Medicine and Surgery, Chicago.

Medical Department, Howard University, Washington, D. C.

American Medical Missionary College, Chicago, Illinois.

Bennett College of Eclectic Medicine and Surgery, Chicago, Ill.

Chicago Homoeopathic Medical College, Chicago, Ill.

Chicago Physio-Medical College, Chicago, merged in College of Medicine and Surgery, Chicago.

College of Physicians and Surgeons, Chicago.

Hahnemann Medical College and Hospital, Chicago.

Harvey Medical College, Chicago.

Hering Medical College, Chicago (Dunham Med. Coll., Chicago).

Illinois Medical College, Chicago, Ill.

Northwestern University Medical College, Chicago.

Northwestern University Medical School, Chicago, Woman's Med. Coll., Chicago.

Rush Medical College, Chicago, Illinois.

Central College of Physicians and Surgeons, Indianapolis, Ind.

Medical College of Indiana, Indianapolis, Ind.

State University of Iowa, Medical Department, Iowa City, Iowa.

State University of Iowa, Iowa City, Iowa (Homoeopathic Medical Department).

Kentucky School of Medicine, Louisville, Ky.

Louisville Medical College, Louisville, Ky.

Medical Department, Louisville University, Louisville, Ky.

Johns Hopkins University, Medical Department, Baltimore, Maryland.

College of Physicians and Surgeons, Baltimore, Maryland.

Southern Homoeopathic Medical College, Baltimore, Maryland.

Woman's Medical College of Baltimore, Maryland.

Medical School, Harvard University, Boston, Mass.

University of Michigan, Medical Department, Ann Arbor, Mich.

Detroit College of Medicine, Detroit, Mich.

University of Michigan (Homoeo. Med. Coll.), Ann Arbor, Michigan.

Michigan College of Medicine and Surgery, Detroit, Michigan.

Saginaw Valley Medical College, Saginaw, Michigan.

Detroit Homoeo. Medical College, Detroit.

College of Medicine and Surgery, University of Minnesota, Minneapolis.

Medical Department, Hamlin University, Minneapolis, Minn.

College of Medicine and Surgery, University of Minnesota, (Homoeopathic Department).

American Medical College of St. Louis, Mo.

Barnes Medical College of St. Louis, Mo.

Homoeopathic Medical College of Missouri, St. Louis, Mo.

Medico-Chirurgical College, Kansas City, Mo.

University of Nebraska, College of Medicine, Lincoln, Neb.

Lincoln Medical College (Eclectic), Lincoln, Neb.

Albany Medical College, Albany, N. Y.

College of Physicians and Surgeons, Columbia University, New York.

Eclectic Medical College, City of New York, N. Y.

Medical Department, Buffalo Medical College, Buffalo, N. Y.

Medical Department, Cornell University, New York, N. Y.

University and Bellevue Hospital Medical College, New York, N. Y.

United States Medical College, New York, N. Y. (Extinct).

Cleveland Homoeopathic Medical College, Cleveland, O.

Eclectic Medical Institute, Cincinnati, O.

Medical College of Ohio, University of Cincinnati, Ohio.

Miami Medical College, Cincinnati, Ohio.

Pulte Medical College, Cincinnati, Ohio.

Starling Medical College, Columbus, Ohio.

Toledo Medical College, Toledo, Ohio.
 Medical Department, Oregon University, Portland, Oregon.

Hahnemann Medical College and Hospital, Philadelphia, Pa.

Jefferson Medical College, Philadelphia, Pa.

Medico-Chirurgical College, Philadelphia, Pa.

Western Pennsylvania Medical College, Pittsburgh, Pa.

Medical Department, Nashville University, Nashville, Tenn.

Medical Department, Tennessee University, Nashville, Tenn.

University of Western Tennessee, Jackson, Tenn.

Medical Department, Texas University, Galveston, Texas.

Medical College of Virginia, Richmond, Va.

Halifax Medical School, Halifax, N. S.

Dalhousie University, Medical Department, Halifax, N. S.

Toronto University, Medical Department, Toronto, Ont. (Trinity University, Toronto, merged.

Queens University, Medical Department, Kingston, Ont.

(c) RESOLVED: That the following medical colleges of Michigan be approved under and in harmony with Section 3, Subdivision First (e), Act 353, Laws of 1903, Amending Act 237, Laws of 1899 lines 27-32, inclusive, which read as follows:

"And students complying with the other provisions of this section who, on January first of the present year (1903) were regularly registered as students of legally organized and reputable medical colleges of this state approved of by said board, may obtain a certificate of registration as graduates of such colleges and without examination by the board upon payment of a fee of ten dollars."

GROUP III.

University of Michigan, Dept. Medicine and Surgery, Ann Arbor.

University of Michigan, Homœopathic Medical College, Ann Arbor.

Detroit College of Medicine, Detroit.

Detroit Homœopathic Medical College, Detroit.

Colleges not Approved and Designated Under Group I. but Whose Medical Courses are Recognized for Advanced Standing in Recognized Colleges Under Group I.

(d) RESOLVED: That the courses of the following medical colleges not approved and designated under Group I. by the board be recognized

for Advanced Standing in Approved Medical Colleges:

GROUP IV.

Medical Department, Howard University, Washington, D. C.

Harvey Medical College, Chicago.

Hering Medical College, Chicago, (Dunham Medical College).

College of Medicine and Surgery, Chicago, Ill.

Central College of Physicians and Surgeons, Indianapolis, Ind.

Louisville Medical College, Louisville, Ky.

Medical Department, Louisville University, Kentucky.

Southern Homœopathic Medical College, Baltimore, Maryland.

Saginaw Valley Medical College, Saginaw, Michigan (Merged).

Michigan College of Medicine and Surgery, Detroit, Michigan.

American Medical College, St. Louis, Mo.

Medico-Chirurgical College, Kansas City, Mo.

Lincoln Medical College (Eclectic), Lincoln, Nebraska.

Miami Medical College, Cincinnati, Ohio.

Starling Medical College, Columbus, Ohio.

Toledo Medical College, Toledo, Ohio.

Medical Department, Oregon University, Portland, Ore.

Medical Department, Nashville University, Nashville, Tennessee.

Medical Department, Tennessee University, Nashville, Tennessee.

University of Western Tennessee, Jackson, Tenn.

Halifax Medical School, Halifax, Nova Scotia.

Dalhousie University, Medical Department, Halifax, N. S.

Medical Faculty, Toronto University, Toronto, Ont.

Medical Faculty, Trinity University, Toronto, Ont. (Extinct).

Medical Faculty, Queens University, Kingston, Ont.

Amendments to Reciprocity Resolutions Adopted by the Board June 11, 1902, and Amended June 10th, 1903.

RESOLVED: That the standard under Qualification No. 1 of a recognized medical diploma be changed under (e) to read as follows:

(e) "That under Qualification No. 1 a recognized medical diploma shall be of the following minimum standard," viz.: A certificate of graduation from an approved and reputable high

school, academy, normal school, state board of education, state board of medical examiners, college or university, having a classical course and having the minimum standard of preliminary education adopted under Section 3, Subdivision First (e) of the Amended Medical Act of 1903, and a medical diploma from an approved and designated medical college listed under Group I, having the minimum standard of medical education adopted under Section 3, Subdivision First (3) of the Amended Medical Act of 1903.

RESOLVED: That the list of medical colleges recognized under Qualification No. II., June 10th, 1903, be revoked and that the following medical colleges be approved and designated in connection with Qualification No. 2, viz.: medical colleges listed under Groups I. and II.

Adopted October 14th, 1903.

J. H. COWELL, President.

B. D. HARISON, Secretary.

COMMITTEES, 1903-5.

AUDITING.

Griswold, Maynard, Landon.

STANDARD AND COLLEGES.

Landon, LeSeure, Kost and Bell.

EXAMINATIONS.

Ranney, Maynard, LeSeure, Kost.

LEGISLATION AND LITIGATION.

LeSeure, Sawyer, Ranney, Bell.

REGISTRATION.

Bell, Kost, Griswold, LeSeure.

SECTION 6—Sawyer, LeSeure, Maynard.

The President and Secretary shall be members, ex-officio, of all committees.

EXAMINERS FOR 1903-5.

Obstetrics and Bacteriology—H. B. Landon, M. D., Bay City.

Materia Medica and Therapeutics and Practice (Physio-Medical) and Hygiene—John Kost, M. D., Adrian.

Minor Surgery and Surgical Pathology—B. D. Harison, M. D., Sault Ste. Marie.

Practice of Medicine, Pathology and Materia Medica and Therapeutics—G. E. Ranney, M. D., Lansing.

Materia Medica and Therapeutics and Practice (Eclectic) and Medical Jurisprudence—William Bell, M. D., Belding.

Surgery and Histology—Oscar LeSeure, M. D., Detroit.

Gynecology, Chemistry and Diseases of the Eye, Ear, Nose and Throat—W. H. Sawyer, M. D., Hillsdale.

Mental and Nervous Diseases and Toxicology—J. B. Griswold, M. D., Grand Rapids.

Anatomy, Descriptive and Surgical—H. C. Maynard, M. D., Hartford.

Physiology, Materia Medica and Therapeutics, and Practice (Homoeopathic)—J. H. Cowell, M. D., Saginaw.

CHANGE IN MEMBERSHIP.

Oct. 15th to Nov. 15th.

NEW MEMBERS.

D. E. Bagshaw, Saginaw.

W. L. Barnes, Ionia.

G. L. Bond, Carson City.

J. N. Day, Lake Odessa.

Emma Decker, Mt. Clemens.

E. G. Folsom, Mt. Clemens.

J. W. Freeman, Saginaw.

J. Gould, Fenton.

W. A. Griffith, Kinderhook.

Roy D. Hensel, 374 Bowen Ave., Detroit.

H. H. Hills, Flint.

A. W. Hixon, Grand Ledge.

A. G. Holbrook, Coldwater.

A. R. Ingram, Fenton.

C. S. Kenny, Norcatur, Kansas.

E. D. Lewis, Otisville.

D. H. Long, Eaton Rapids.

C. B. Macartney, Flint.

S. C. Moore, Cadillac.

A. J. Pettis, West Branch.

P. H. Quick, Olivet.

T. S. Ryan, Saginaw.

E. A. Schilz, Delta.

P. L. Thompson, Grand Ledge.

F. L. Tupper, Flint.

W. E. Wilson, Grand Ledge.

CHANGE OF ADDRESS.

J. R. Arneill to Denver, Colo.

C. E. Bailey to Ionia, Mich.

C. J. Bulhand to Sunfield, Mich.

J. Bursma to Altona, Mich.

J. N. MacLean to Saginaw, Mich.

C. B. Pearson to Grand Blanc, Mich.

B. P. Pierce to Mackinaw City, Mich.

LEFT STATE.

J. E. Cunningham.

M. A. Flemming.

A. J. Thomas.

PERSONAL MENTION.

Mr. and Mrs. Hugh J. Gray announce the marriage of their sister, Mabel C., to Dr. Louis Schuyler Joy, on November 5th, 1903, at Grand Rapids. At home, Marshall, Mich.

HEALTH IN MICHIGAN DURING OCTOBER, 1903.

Reports to the State Board of Health, by representative physicians in active general practice, in different parts of the State, show the diseases which caused the most sickness in Michigan, during the month of October (4 weeks ending October 31), 1903, as follows:

Number of reports received for this month, 332.	Per cent of reports stating presence of disease.		
	Oct., 1903.	Sept., 1903.	Average for Oct., 10 years, 1893-1902
Diseases arranged in order of greatest prevalence in this month.			
Rheumatism	60	57	62
Neuralgia	53	44	56
Bronchitis	46	42	49
Diarrhea	44	57	51
Tonsilitis	42	39	42
Typhoid fever (Enteric)	23	22	24
(Typho-malarial)	4	2	6
Consumption, pulmonary	26	23	25
Influenza	25	17	30
Inflammation of kidney	19	17	17
Scarlet fever	15	11	10
Dysentery	14	22	19
Intermittent fever	14	12	22
Cholera morbus	13	23	15
Pleuritis	12	16	11
Pneumonia	10	6	10
Inflammation of Bowels	9	13	11
Diphtheria	9	5	8
Cholera infantum	8	17	12
Remittent fever	7	7	18
Erysipelas	5	5	9
Whooping cough	2	6	5
Meningitis	1	1	1
Measles	1	.2	2
Smallpox	1	6	1
Puerperal fever .....	.9	1	2
Membranous croup .....	.9	.2	1
Inflammation of brain .....	.6	1	2

At the state capitol for the month of October, 1903, compared with the preceding month, the tri-daily observations made by the State Board of Health show the prevailing direction of the wind to have been the same (southwest), the velocity 1.1 miles per hour greater, the average temperature 10.79 degrees lower, the average daily range of temperature .8 of a degree less, the average daily range of atmospheric pressure .66 of an inch greater, the precipitation 1.93 inches less, and the absolute and relative humidity and the day and night ozone all less.

For the month of October, 1903, compared with the preceding month, neuralgia, influenza, scarlet fever, pneumonia, diphtheria and measles were more prevalent; and diarrhoea, dysentery, cholera morbus, pleuritis, inflammation of bowels, cholera

infantum, whooping-cough and smallpox were less prevalent.

At the state capitol for the month of October, 1903, compared with the average for October in the ten years, 1893-1902, the prevailing direction of the wind was the same (southwest), the velocity .3 of a mile per hour less, the average temperature .17 of a degree higher, the average daily range of temperature .19 of a degree less, the average daily range of atmospheric pressure .015 of an inch greater, the precipitation .73 of an inch less, the absolute humidity more, the relative humidity and the day and night ozone all less, and the depth of water in the observation well 20 inches more.

For the month of October, 1903, compared with the average for October in the 10 years, 1893-1902, scarlet fever was more than usually prevalent; and influenza, dysentery, intermittent fever, cholera infantum, remittent fever, erysipelas, whooping-cough and measles were less than usually prevalent.

The most dangerous communicable diseases.

Including reports by regular observers and others, *meningitis* was reported present in Michigan during the month of October, 1903, at 8 places; *whooping-cough* at 19 places; *measles* at 21 places; *smallpox* at 42 places; *diphtheria* at 83 places; *scarlet fever* at 111 places; *typhoid fever* at 185 places; and *consumption* at 242 places.

Reports from all sources show *meningitis* reported at the same number of places; *whooping-cough* at 13 places less; *measles* at 3 places less; *smallpox* at 15 places less; *diphtheria* at 10 places more; *scarlet fever* at 8 places more; *typhoid fever* at 3 places more; and *consumption* at 9 places more, when compared with the preceding month.

HENRY B. BAKER,

Lansing, Mich., November 5, 1903. Sec'y.

MORTALITY IN MICHIGAN DURING OCTOBER, 1903.

There were 2,624 deaths reported to the Department of State for the month of October, or 98 less than the number returned for the preceding month. The death rate was 12.5 per 1,000 population.

Deaths by ages were as follows: Under 1 year, 489; 1 to 4 years, inclusive, 185; 65 years and over, 766.

There was a considerable decrease in deaths of infants and children, and a slight increase in deaths of elderly persons, as compared with September.

Important causes of death were as follows: Tuberculosis of the lungs, 190; other forms of tuberculosis, 35; typhoid fever, 90; diphtheria and cough, 16; pneumonia, 143; diarrhoea, 3; whooping-cough, 16; pneumonia, 143; diarrhoea and enteritis, under 2 years, 173; cancer, 128; accidents and violence, 202.

There was one death from smallpox which occurred in the city of Hillsdale. Somewhat increased mortality was shown from tuberculosis, diphtheria and croup, and pneumonia. Typhoid fever caused 90 deaths as compared with 74 for the preceding month. There was a very large decrease in deaths reported from diarrhoeal diseases of children, and also a considerable diminution in the number of deaths from cancer.

DEPARTMENT OF HEALTH.

CITY OF PORT HURON, MICH.

REPORT OF VITAL STATISTICS

for the Month of October, 1903.

CAUSES OF DEATH

Apoplexy.....	1
Paralysis	1
Abcess of Brain.....	1
Convulsions.....	2
Hemiplegia	1
Bronco-pneumonia	1
Membranous Croup.....	1
Organic Heart Disease.....	1
Cardiac Insufficiency.....	1
Mitral and Aortic Obstruction.....	1
Exhaustion.....	2
Typhoid Fever.....	2
Purpura Hemorrhagica.....	2
Chr. Rheumatism.....	1
Gangrene	1
Cancer of Uterus.....	2
Carcinoma of Breast.....	1
General Debility.....	1
Shock from burn.....	1
Injury (from being struck by R. R. car).....	1
Old Age.....	1
Still Birth.....	3

CONTAGIOUS DISEASES REPORTED DURING MONTH

Typhoid Fever.....	3
Consumption.....	0
Measles.....	0
Diphtheria.....	5
Scarlet Fever.....	6
Smallpox.....	0
Whooping Cough.....	0
Chicken Pox.....	0

CONTAGIOUS DISEASES REMAINING ON HAND AT END OF MONTH

Typhoid Fever.....	1
Consumption.....	3
Diphtheria.....	1
Scarlet Fever	3
Measles.....	0
Smallpox.....	0
Chicken Pox.....	0

A. H. COTE, M. D., Health Officer.

Communications.

MEETING OF THE AMERICAN CONFEDERATION OF RECIPROCATING, EXAMINING AND LICENSING MEDICAL BOARDS.

SAULT STE. MARIE, Mich., Nov. 9, 1903.

EDITOR:—I beg to call your attention to the meeting held at St. Louis, October 27th last, by the American Confederation of Reciprocating, Examining and Licensing Medical Boards.

The following boards were represented; Michigan, Wisconsin, Indiana, Illinois, Kentucky, Iowa, Kansas, Missouri, Ohio, Pennsylvania, Nebraska and Oklahoma. The following states telegraphed or wrote their approval of the work and objects of the Confederation and regretted their inability to send delegates: Idaho, Maine, Rhode Island, Maryland, New Jersey, Delaware, Connecticut, North Dakota, Oregon, Louisiana, Arizona, Florida, Wyoming and Ontario.

Most of the discussion was centered on Qualification No. 2, which added the requirements of a year's reputable practice in the state subsequent to the receiving of a license before endorsement could be had for a reciprocal license in another state.

Qualification No. 2, as amended, reads as follows:

"That a certificate of registration or license issued by the proper board of any state may be accepted as evidence of qualification for reciprocal registration in any other state, provided the holder of such state certificate had been engaged in reputable practice in such state at least one year, and also provided that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date of such diploma was prior to the legal requirement of the examination test, in such state."

The confederation gained, through the St. Louis meeting, an actual increase of membership of over 66 per cent. and a more than probable membership of several times the above percentage within a brief period. From the points of increase in membership and actual attendance by those having authority to act in the matter of reciprocity, information relative to the amount of non-difficulties encountered by those states reciprocating under Qualification Nos. 1 and 2 and a better understanding of such qualifications,

the meeting at St. Louis was without question the most successful and fruitful reciprocity conference ever held in the United States.

The following officers were elected:

President—Dr. W. A. Spurgeon, Indiana.

First Vice-President—Dr. H. H. Baxter, Ohio.

Second Vice-President—Dr. J. A. McKlveen, Iowa.

Sec. and Treas.—Dr. B. D. Harison, Michigan.

Yours very truly,

B. D. HARISON, Sec'y.

Book Notices.

COMPEND OF GYNAECOLOGY. By William H. Wells, M. D. Third Edition. Revised and Enlarged with 145 Illustrations Philadelphia: P. Blakiston's Son & Co. 1903. Cloth, pp. 293. Price, 80 cents.

Apparently "compend" in medicine have come to stay. Yearly new editions and new compends occupy the ever-widening field. In many quarters they are regarded with disfavor, but their sale increases, so that we must conclude that they meet an actual "want," a want that increases.

The question before us may be stated thus, Does "Wells' Compend of Gynæcology" support its claims? Does it, in skeleton form, fairly state the essential points of clinical history, diagnosis, prognosis and treatment of the diseases peculiar to women?

The fact of being the third edition proves that a very considerable number of physicians already have answered this affirmatively. To its credit must be placed the fact that it does not follow any one writer, but picks from each that which Dr. Wells regards as most representative of general opinion.

It presents such operations and methods of treatment as have become prominent since the second edition appeared. For a book of its size it is well illustrated, both as to quality and number, there being one hundred and forty-five of the latter.

A good index makes it most convenient for ready reference.

"SQUINT, ITS CAUSES, PATHOLOGY AND TREATMENT
By Claude Worth, F. R. C. S. Philadelphia:
P. Blakiston's Son & Co., 1012 Walnut Street.
1903. Cloth, pp. 229.

This book is the result of the writer's studies of a large number of cases, continued during a number of years and of a study of the visual powers of normal sighted persons. A comparison of these furnished the basis for his ideas on the causes and pathology of squint. All who work in this field grant that additional light is most desirable.

The keynote of his work is that the essential cause of squint is a defect in the fusion faculty, and the rational treatment is the removal of this defect.

Perhaps the two most prominent features of his methods in accomplishing this end, are (1) the use of atropine only in the fixing eye in convergent squint and (2) the use of an instrument which he calls the "Amblyoscope," a modified stereoscope, modified in that it enables the patient more easily to catch the separate images and unite them in one. These are not used to the exclusion of other methods found useful in the management of these cases. Refractive defects are ascertained and fully corrected as the primary step of the general working plan. Ivory balls of various sizes are used as objects for determining the visual power in very young children. With the amblyoscope objects are selected that will interest a young child. After all other methods fail (as they do at times in older children) he operates either by advancement or tenotomy on one or both eyes according to indications.

The other varieties of squint are dealt with on the same general principles, variously applied, in all the physician works towards the development of the fusion faculty, and his success is proportioned according as he reaches it in part or whole. He finds that the fusion faculty begins to develop before a year and is complete before the end of the sixth year. When fairly developed neither hyperopia, anisometropia or heterophoria can cause squint. Hence the importance of beginning efforts to develop this faculty at the earliest possible date.

As a personal record of one man's experience, this book will attract all who study and labor along similar lines; the more is this so because of the fact that squint is still far from being understood and its correction satisfactory.

The Journal of the Michigan State Medical Society

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